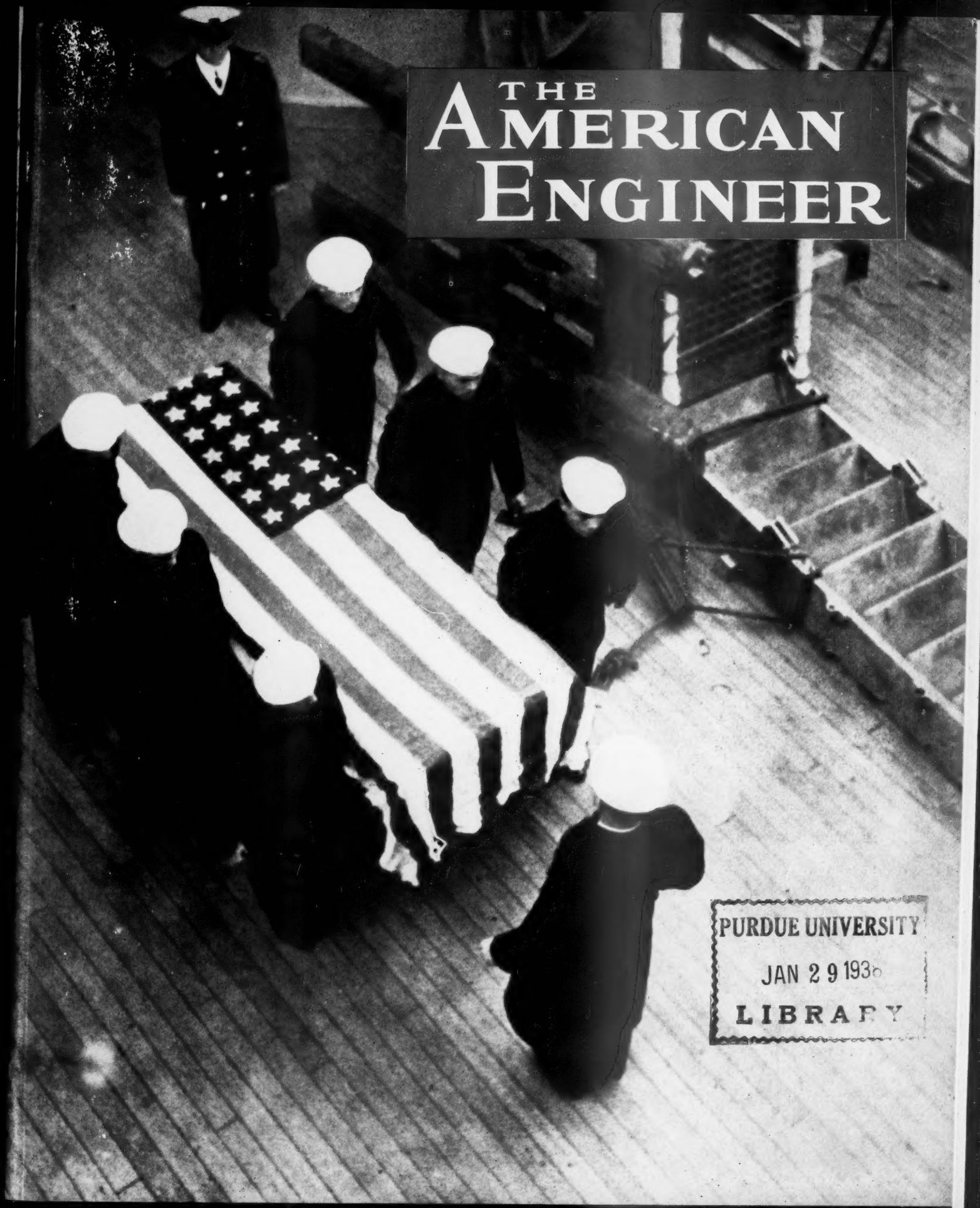

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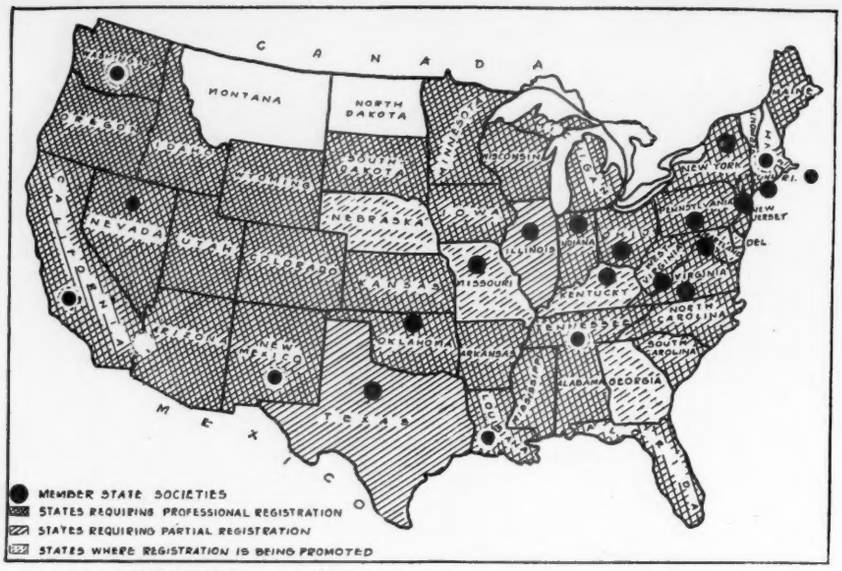

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Photo by Acme Newspictures Inc.

THE COVER—Our cover is a picture of one of the victims of the Panay Bombing by Japanese planes as he was carried aboard the U. S. S. Augusta in Chinese waters at Shanghai.

The Panay Bombing caused the most serious international crisis since the World War.

THE AMERICAN ENGINEER will from time to time attempt to record on its cover major incidents of national and international character so that files of the magazine in the future may be a picture record of such events. We will be glad to receive from our members suggestions as to covers, and if you care to send us photographs which you think may be of interest, we would be happy to receive them.

The American Engineer assumes no responsibility for statements or opinions expressed by contributors. Their names identify the source of the same.

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EDITORIAL . . .

INVENTORY

The start of a New Year is opportunity to take INVENTORY, make a careful APPRAISAL, check on a fair RETURN and plan for an increased VOLUME of business without lowering QUALITY of product.

INVENTORY—Our stock consists of twenty-two State Societies of Professional Engineers, tied together in a solid bond by the National Society of Professional Engineers. Our membership approximates five thousand registered professional engineers—men who have met the qualifications of license laws requiring proficiency in the art, science and practice of engineering.

APPRAISAL—Value is relative worth. At the beginning of 1938 we are materially stronger than a year ago; numerically stronger in number of state societies, in members, in States having registration laws—stronger in quality of those laws—in their enforcement—a more powerful voice in affairs of State and Nation and in the respect of the public—our "net worth" is greater.

RETURN—Every member must receive a fair return on his investment in the Society, else his interest lags. Return may be tangible or intangible—or both. The strength of the Society lies first in the activity and achievement of the local Chapters, next in the strength of the State Society, then in that of the National Society.

Influence your community—help other engineers—preach a fair compensation—enlarge local chapters—be firm in collection of dues—elect officers who have the respect of the community—let members speak on professional engineering general topics to public groups—outline a year's program—take an individual active part in chapter activities—you'll be surprised at the high rate of return your investment will pay.

VOLUME—of business is governed by the increase in membership in each local chapter and probably the greatest advance we can make in 1938 is the strengthening and solidifying of each State Society. Let each state directorate and officers resolve to do a "good construction job," and by 1939 we will have added more to our "net worth" than we have added the previous year.

QUALITY—The quality of our stock is automatically maintained. This organization places on its rolls only those legally registered—there can be no lowering of quality.

The INVENTORY has been taken .....Let us take it again in a year!

ROBERT HALL CRAIG

A New Professional Society

Washington Affiliates with National Society of Professional Engineers
Passing of 1937 Suggests Reflection

By **ARTHUR V. SHERIDAN, President of NSPE**

It is a particularly pleasant privilege to welcome a new member into the household of a professional family. The admission of the State of Washington to the confederation of commonwealth organizations which comprise the National Society of Professional Engineers is hailed with enthusiasm by its sister states and inspires the hope that the engineering profession will shortly have a national voice and a status comparable with that enjoyed by the professions of law and medicine through the media of the American Bar Association and the American Medical Association whose standing, form of organization and methods of procedure N. S. P. E. frankly seeks to emulate.

The professional society movement has had a constant, normal and promising growth and under the cooperative influence of national leadership will, it is hoped, shortly be a social and economic, as well as professional, force sufficient to command the respect and confidence of the American people. Within three years the movement has expanded to such extent that today the leadership of the National Society is recognized by state groups from the Atlantic to the Pacific and from the Great Lakes to the Gulf of Mexico. Washington is the twenty-second State to become affiliated with N. S. P. E. and its complete acceptance of the concepts and objectives of the truly professional society is a source of great satisfaction, as well as a promise of future potentiality in the conduct of affairs, social, economic and professional in the great Northwest.

For many years the profession of engineering has failed as an agent between the practitioner and the society which he serves. Such failure cannot be attributed either to motive or to circumstances outside the calling. It is due to the fact that Engineers themselves have neglected the significance and import of political organization. The term political should not convey the impression of partisan acceptance of, or participation in, the views or actions of prevailing or aspiring groups. Rather should Engineers, as citizens, appreciate that these United States are composed of and governed through social or political units or entities such as the municipality, the county, the state and the nation. Other professions and other great and influential organizations, such as the American Legion, understand the value of, and justification for, recognition of the political subdivisions of government in the conduct of their affairs. Civic agencies, political organizations and even press exercise jurisdiction and influence within more or less definite geographical lines. Legislators, public officials, laws and statutes function within political subdivisions of the state or nation. Why, then, should Engineers be out of step with the modus operandi which is so obviously essential to representation and recognition in the affairs of government. Surely there is benefit to neither public nor profession in praising the Engineer for his work and condemning the rest of mankind for failure to recognize the said Engineer when the latter ignores the rules of society. As practitioneers of a great profession, Engineers have little need of convincing or recognizing one another. It is public recognition that should be sought.

The advent of a new year affords an opportunity for reflection upon the passing of 1937. What has been the national gain? Strife and dissension have been more in evidence than during the preceding twelve months. This is particularly true within the ranks of labor. The federal government has striven to reconcile differences of opinion as well as to heal the wounds resulting from conflict, both verbal and physical. It has set up machinery and has pleaded for cooperation. However, men are still humans and subject to the same hopes, fears, passions and aspirations as their ancestors. The way out of our economic dilemma is not yet definitely in sight. One conclusion remains a conviction with engineers, viz., the principal cause of modern civilization must be recognized to a greater extent if the effects are to be a boon and not a menace to the welfare of mankind. The Engineer may or may not be able to reconcile a changing civilization with an unchanging humanity, but given the opportunity to serve society by helping to administer the same he cannot fail more signally than have those who have ignored him. To accomplish such objective he must be free from the influences and pressure of politicians, big business control, financiers, sociologists and others whose roles in society would be nil without the contributions of science and engineering. There has been thrown about our judicial officials a mantle of respect and a freedom of action which if extended to Engineers would afford mankind an opportunity to properly evaluate the accomplishments and the capacity of the Engineer in the direction of social service. It is to such problems that the National Society of Professional Engineers is dedicated.

Professional engineering societies throughout the nation greet their sister state organization in Washington. The National Society extends a cordial welcome to its new affiliate and in so doing poses, for those who are without its fold, this question; if there be a weakness in its form of organization or in its aspirations, social, economic or professional, it sincerely but humbly challenges evidence thereof.

The Engineer in a Changing World

By **RALPH E. FLANDERS**

Address delivered at the 53d Annual Summer Convention of the American Institute of Electrical Engineers, Milwaukee, Wisconsin, 1937

What can and should engineers do about the social and economic problems that beset the modern world? In answering this question, Doctor Flanders says: "We must exercise our responsibility more for the sake of society as a whole than for the sake of ourselves as individual engineers or for the private interests of the businesses with which we may be connected." He states further that: "It is an inescapable duty that we each make of ourselves centers of education and influence, to the end that our useful offices may continue, and our civilization fulfill its destiny of an ever-growing service to the needs of mankind."

The world in which we are living is changing in many ways, and those changes are rapid. The physical frontier has disappeared from this continent and, except for the antarctic regions, it has practically disappeared from the earth as a whole. With the occupation of the frontier has gone one of the powerful automatic stimuli to private enterprise and material progress.

Much of the progress we are making is so based upon elaborate research and requires such extensive and expensive provision of facilities that it is best carried out by large corporations or well-financed research groups, rather than by individual scientists, engineers, and inventors of the old type. This is another influence that tends to restrict the expansion of individual initiative and tends to throw the burden of further social progress onto aggregations of capital and of men.

A further element in our increasing socialization is the recent rapid sensitizing of the social conscience and a resulting expansion of social activity into fields of action which in past generations had been considered reserved for the individual or for small social groups. The severity of the depression was so great and the social responsibility for it seemed to be so definite that both our relief measures and our recovery measures have tended to be social and political, rather than individual and philanthropic.

Finally, though without exhausting the list of recent developments, we have become aware of the fact that in our banking, credit money, and general aggregate of financial institutions, we have a useful but delicately balanced, and at times unbalanced, mechanism difficult to control and tending on the whole greatly to increase the violence of business fluctuations and economic distress, rather than to provide a dampening effect on them. All these phenomena and others not mentioned pose a new set of problems to the engineer and to the engineering societies in which they are organized.

In their beginnings and until recent times, engineering societies had the purely technical purposes of bringing to the attention of their members all the latest technical developments in their fields and offering a forum for criticizing them, advancing them, and disseminating knowledge about them.

Even while this type of activity remained almost the sole object of society action, the problem nevertheless began to be complicated by the numerous divisions into which engineering work began to elaborate itself. Engineers were no longer simple engineers. Some were in control of their own businesses as consultants or manufacturers of engineering apparatus; others were employees of various grades. Some were engaged in teaching; others in research, design, construction, sales, operation, and administration. This multiplication of function brought a host of new problems to the engineering societies, on the one hand opening new opportunities to usefulness, and on the other tending so to elaborate engineering activities as to lose much of the harmonious directness and strength of the earlier days.

As a result of the tendency for engineering advance to be focused in and to be carried out by large aggregations of men and of money, the problem of the engineering society has been complicated further by widespread sentiment in favor of entering employer-employee relations, so that in the extremes of such policies the societies might be tending to take on some of the aspects of trade-union organizations.

This continuous elaboration of function is here described and emphasized so that we may realize that the problems facing us are no longer simple, and that any endeavor forcibly to keep them within too simple lines may result in giving to the societies a cloistered and sterile outlook, devoid of vital function and social usefulness. We are in fact faced with the problem of maintaining our social usefulness and finding out just what are the spheres in which it most clearly may be demonstrated and exercised.

An address delivered at the general session on the economic aspects of engineering and Institute activities held during the AIEE summer convention, Milwaukee, Wis., June 23, 1937.

Ralph E. Flanders is president of the Jones and Lamson Machine Company, Springfield, Vt. He began his technical career as an apprentice machinist in 1897, and became president of the Jones and Lamson company in 1933. He has received several honorary degrees. Doctor Flanders has devoted much time to engineering-society activities, having served as president of the American Society of Mechanical Engineers, and as member or chairman of many ASME committees. He is a vice-president of American Engineering Council and chairman of the AEC committee on relation of consumption, production, and distribution; since 1932 he has been active in the public works program of Council. During 1936 he was chairman of the AEC committee on engineering economics and has been a director of the Social Science Research Council. He has written numerous technical papers and 2 books.

World of Today a Product of the Engineer

The world we know has been made by the engineer so far as its physical aspects are concerned, and his influence has had no small part in determining its spiritual environment.

Perhaps some remember the epitaph of Sir Christopher Wren, the architect, engraved on the walls of his masterpiece—St. Paul's Cathedral in London. It reads: "Si monumentum requiris, circumspice," or, in English, "If you seek his monument, look about you." In like manner, if we wish to inquire as to the material influences of the engineer, we have but to look about us. We will see thousands of daily reminders of the fact that our material civilization has at the bottom an engineering foundation.

Its useful services are many. Our profession has filled the world with a profusion of comforts and luxuries which were denied to kings a short century ago, but are now enjoyed by the average citizen. Flowing water in the kitchen and bathroom, brightly lighted streets, and the radio, are all ordinary conveniences for the ordinary citizen. They were nonexistent when Queen Victoria began her reign.

There is no need to multiply instances. The tale has been told and retold; but told and retold, as well, has been the story of the problems an engineering civilization has posed for the solution of its citizens. The perils of drought and pestilence have been exchanged for the mischances of technological unemployment. That unemployment may be transitory and a part of a process which history shows to be benevolent in its total results, but it is as yet a serious and sometimes insoluble personal problem.

Worst of all, our engineering civilization proves to be less stable than the older forms based upon subsistence agriculture. It gives us more, but its gifts are more irregular. There are seasons of outpouring and seasons of withholding. Boom follows depression, and depression follows boom, and this relentless alternation leaves much human wreckage in its wake. What can and should we engineers do about the evil features of this world we have made?

Engineers Should Not Intrude Into Alien Fields

It is not my intention to go into the details of this problem. I believe that the engineer's work has been healthy and constructive. I believe that the maladjustments have come from our narrow and selfish activities as industrialists, workers, farmers, and financiers, and from the imbecilities of our politics. In particular, I do not believe, as so many have urged, that the remedy lies in the intrusion of engineers with engineering methods into the alien fields of politics, economics, and finance. This subject will be discussed briefly, because in popular opinion our profession alternately has been damned for causing all the ills of our era on the one hand, and on the other for not curing them by still more radical engineering activity.

This question was raised some months ago in an address by Walter Lippmann, and I take the liberty of quoting here in part from his criticisms and in part from a reply to them:

There were several years, I should say roughly from the crash of 1929 to the end of 1933, from the breakdown of prosperity to the beginning of recovery, when the ideal of an engineered and planned economy had almost completely captured the imagination of the Western World. Every one who raised his voice—the Chamber of Commerce, the heads of big corporations as well as the New Dealers and the Progressives—talked about planning something. No doubt they had different ideas of how to plan and what to plan for, but the underlying image dominated most minds. The notion finally reached its grand climax, and its *reductio ad absurdum,* in the vogue of technocracy.

The point I wish to make is that the conception of government as a problem in engineering is a false and misleading conception, that the image of the engineer is not a true image of a statesman, and that society cannot be planned and engineered as if it were a building, a machine, or a ship. The reason why the engineering image is a bad image in politics, a bad working model for political thought, a bad pattern to have in mind when dealing with political issues, is a very simple one. The engineer deals with inanimate materials. The statesman deals with the behavior of persons.

The notion that society can be engineered, planned, fabricated, as if men were inanimate materials, becomes in its extremist manifestations a monstrous blasphemy against life itself.

These statements are a challenge to the engineer's training, his state of mind, and his usefulness to society. That challenge should be accepted and an answer given.

Engineer Can Contribute to Government

Engineers never have been convinced, in great numbers or for long, of the effectiveness of their technique as a main reliance of government. In fact, the clearest, most reasoned, most convincing demonstration of its inapplicability is the work of an engineer. Those interested will find it in an article by David Cushman Coyle entitled "The Twilight of National Planning," published in *Harper's Magazine* for October 1935. In all this we are at one with Mr. Lippmann.

But it will not do to leave the matter in this negative state. The engineer has positive contributions to make to the processes of effective government. He cannot make them unless certain misconceptions expressed in Mr. Lippmann's address are removed and the real nature of his contribution is revealed. There are 2 primary misconceptions: (1) The engineer cannot "dictate to nature." He is the humble disciple of nature, serving society by virtue of that discipleship. (2) His undertakings grow ever farther removed from the completely material realm, and must perforce deal ever more and more with the realization of human ends, whereby the completed structure or mechanism is a joint product of material science on the one hand, and human desires, needs, and possibilities on the other. In no branch of engineering does this appear more clearly than in the modern forms of "scientific management," of which the foundation is a fundamental and sincere comprehension of the human and personal element. Engineering is science applied to human needs. It is both a science and an art. If it is not both, it is not engineering.

Another characteristic of engineering is derived from the fact that it is an applied science. It is science applied to definite purposes; and definition of the purpose becomes the ruling factor in engineering design. In government a similar definition of fundamental purpose is sadly needed. Our national policies are guided by such secondary and derivative purposes as raising the price level, restoring the freedom of international trade, raising wages, shortening hours, controlling production, restraining competition. Each of these confidently is put forward as a good in itself, with small pains taken to see that each is related to some larger, general set of purposes.

Good engineering is based upon a careful statement of the problem to be solved; and it happens that our profession has formulated such a statement of the economic problem and has publicly offered it for the consideration of government and governed. It is to be found in the

first progress report of the committee on economic balance of American Engineering Council. It reads as follows:

The problem is "the selection and recommendation of such governmental, financial, and business policies as will maintain in the United States a standard of living that is high, broadly distributed, and free from severe fluctuations."

At first sight such a statement appears trite and sterile; but when we take the trouble to examine the infinitude of partial and conflicting policies that go to make up our total program at this moment, the need becomes clear for some such statement of fundamental purposes, to which all policies must be referred.

A third contribution of our profession—and the last to be suggested in this connection—is a certain knowledge, and a particular faith. The knowledge is that the physical requirements are now at hand for a material standard of living far higher than the human race ever before has enjoyed. There are no physical obstacles. The engineer has removed them. He has played his part. If fault there be, it lies at some other door than this.

With the knowledge goes a faith. He has faith that the complicated social and political problems involved in reaching our objective can be solved—not immediately nor completely, but in such wise and with such speed as may lead to a continuance of our old progress toward a higher and more widely distributed material prosperity. This knowledge and this faith we would share with others.

It is a privilege to belong to a profession that combines the practice of a science and an art. The combination is essential for leadership and achievement. For some time, it has seemed that at least 3 branches of education and professional practice are well fitted to prepare men for life in our present troubled world. They are the doctors, the engineers (to an extent and for reasons I have endeavored to explain), and the graduates of the first-rank schools of business administration, together with the practitioners of business who have attained professional first rank without grace of formal education.

Not only is each of these professions at once a science and an art, but they have another property in common. Each has to face the harsh judgment of ascertainable fact. For the doctor, the patient gets worse or better, lives or dies. For the engineer, the dam endures and serves its economic purposes, or it goes out under the pressure of the flood, scattering death and destruction. The business man faces the grim entries on the balance sheet. Each is in touch with reality. Society needs the touch of reality.

How should all this affect our lives and our actions? In many ways, but principally in 2 ways: We should derive from these considerations a deep and effective sense of the worth of our profession, and likewise of the responsibilities we bear as engineers.

A Current Problem As the Engineer Sees it

It may be worth while to consider one of our current problems in the light of the engineer's knowledge and experience. We believe that the standard of living may be greatly raised for the mass of the population which is able and willing to work. We believe also that the increasing efficiency of machinery, processes, and management will permit the world's work to be done in shorter hours with more leisure for rational enjoyment. In a word we are sympathetic with and committed to the objectives of the present active labor movement in its endeavor to attain shorter hours and higher wages.

But the higher wages must be real wages, that is to say, they must be able to purchase more goods and services for the wage earner and his family. A mere increase in dollar wages will not do if there are no more goods and services to be bought and if prices advance as fast as or faster than wages do. When we see output restricted by shorter hours and the slowing up of the introduction of improved machinery, while wages are being raised, we are justified as engineers in applying elementary analysis to the problem. We must conclude on such analysis that it is hopeless to expect more goods for higher wages if less goods per worker are made. The hope for a better living under those circumstances is illusory and cruelly deceptive.

However, there is hope for a better living, and that better living can come only from better production as a preliminary to better distribution. For that better production—and particularly for better production in shorter hours—the world is now, and in the future will be, dependent on the engineer, as it has been in the past. If our hopes for better material conditions are to be realized, there will be work for the research engineer, for the process engineer, for the designing engineer, for the management engineer. And the sooner this is realized by the protagonists in our present social strife the better it will be for all concerned.

A Major Threat to Social Progress

It is in our experience and our present method of meeting these current problems that we find the engineer's responsibilities of today. By the pressure of attractive but impossible doctrine, his usefulness to society is threatened; and with the limiting of his usefulness, there is arising a major threat to the social progress we have been making hitherto. We cannot ignore this situation. We must exercise our responsibility more for the sake of society as a whole than for the sake of ourselves as individual engineers or for the private interests of the businesses with which we may be connected.

There is indeed danger in the fact that the material progress with which we are concerned is so closely associated with business interests that they may seem to be one and the same thing. They are not completely so. There is a large area of business as it has been pursued in years past that has not been socially constructive, but socially dangerous instead: Perhaps the largest single area of this harmful business activity has been found in the realm of security speculation and its allied enterprises. Unfortunately for one area of our responsibility, this speculative activity has been so closely associated with the operation of utilities that it is difficult for the general public to distinguish between the useful and socially necessary on the one hand, and the destructive and damnable on the other. A part of our problem lies in making this distinction clear within our own minds and then in presenting the distinction so clearly that we can take the lead as individual engineers in directing public policy on this utilities question into channels more nearly serving the public interest than does the direction now being pursued.

Another danger that we must carefully avoid is that of running wild on the social and economic aspects of our profession and neglecting the technical foundation on which is built everything else that we say and do. The other serious danger, that we may be rash enough to carry our whole engineering point of view over into social planning, has already been discussed.

Whether or not as individuals or as a profession we attain to high reputation or only to humble usefulness, we know that our civilization depends on us. In the words of Spengler, though with more hopeful emphasis:

The center of this artificial and complicated realm of the machine is the organizer and manager. The mind, not the hand, holds it together. But, for that very reason, to preserve the ever-endangered structure, one figure

is even more important than all the energy of enterprising master-men that make cities to grow out of the ground and alter the picture of the landscape; it is a figure that is apt to be forgotten in this conflict of politics—the engineer, the priest of the machine, the man who knows it. Not merely the importance, but the very existence of the industry depends upon the existence of the hundred thousand talented, rigorously schooled brains that command the technique and develop it onward and onward. The quiet engineer it is who is the machine's master and destiny. His thought is as possibility what the machine is as actuality.

Those words are true! As individuals we may struggle, and succeed or fail; we may be rewarded beyond our deserts or miss a recognition that was richly our due. Whatever may happen, this at least we may hold to: that we lived in a glorious age, full of human possibilities; and that our daily work lay at the heart and center of that age.

As to our responsibilities, they are great. Perhaps the greatest of them lies in the understanding of the nature of the mechanisms and of the organizations on which depend the material interests of our generation. It is hard to say whether the greatest danger to them lies in their being perverted and frustrated by powerful selfish interests, or in being overthrown by the recklessness and ignorance of our fellow citizens—even by those moved by the best of intentions. Our material blessings do not come naturally, as fruit grows on a tree. They come because thousands of individuals, having engineering and organizing skill, devote themselves in large and small capacities to keeping the machinery of civilization in running order. It is an inescapable duty that we each make of ourselves centers of education and influence, to the end that our useful offices may continue, and our civilization fulfill its destiny of an ever-growing service to the needs of mankind.

The Engineer's Responsibilities to the Public

Doctor Vannevar Bush has analyzed the social responsibility of the organized engineering profession with particular reference to its relations with government (see article elsewhere in this issue). I am going to suggest the nature of our responsibilities to the general public. We are now engaged in a strenuous race, a race between education and the breakdown of democratic government. As one of its major resulting catastrophies the breakdown of democratic government would destroy the engineer's usefulness to society and put an end to all reasonable hope for a continuation of our old progress toward a higher standard of living for the mass of our fellow citizens. To forestall this disaster, widespread education of the voting public is necessary. The first step in this process is our own self-education. Perhaps we never have stopped to think that we may be in need of that, that some of the ideas we have held since our youth may need revision.

We should examine our beliefs with all the critical capacity at our command. We should study and ponder with open minds proposals to which we have an instinctive aversion. Thomas Nixon Carver once wrote that the trouble with radicals is that they read only radical literature, and the trouble with conservatives is that they read nothing at all. We must erase this stigma from our record and approach these new problems from all directions, furnishing ourselves thereby with opinions pehaps somewhat changed but more solidly founded than before, for we do have new problems and they may require from us new attitudes. It is doubtless true that economic law does not change; neither does physical law. But we discover new physical laws and perhaps we may discover new economic ones. At any rate, we have behind us a marvelous record of new invention and enterprise operating under the ancient and immutable physical laws. Is it not possible that we may discover workable and useful social novelties operable under the ancient and immutable social laws?

As engineers, it is incumbent upon us to distinguish between the device that flies in the face of nature and the device that makes a new application of natural law. With our own beliefs fresh and clear and in order, we face the task of making them broadly useful. I wish to stress our responsibility as an educational force counteracting the forces of social dissolution. In our national meetings, in the meetings of our local sections, in our personal appearances before other bodies and groups, in our private conversations, in human contacts which we must learn to multiply and elaborate, in every way ingenuity can provide, with all the patience and wisdom at our command, we must speak and work for the continuance of an ordered society that moves forward to higher material possessions, more fruitful leisure, and deeper spiritual achievement.

Perhaps you will forgive me if I close with words that originally were addressed to a graduating class at commencement, for, in a sense, we too are facing a commencement.

In the Declaration of Independence our forefathers demanded for the individual the right to "life, liberty, and the pursuit of happiness." When those words were written it was a new idea in the world that happiness might be attained. The ancients and those of medieval times had other aspirations. They sought honor, liberty, and salvation, and were not sure that happiness was consistent with these or even possible on any terms. May I suggest that there is a deeper, richer word than "happiness," and that is the word, "satisfaction."

It is not too much to hope that we may attain satisfaction in the practice of our profession. In part it will come from the very fortunate fact that many of us as engineers see the idea in the mind finally embodied in the material machine, process, or structure, and actively serving the needs of mankind. But an even more powerful satisfaction will come to us if we see our profession in the aspects of history and of the evolving human drama. For those who see, and who act on the vision, the fullness of life is reserved. May that gift be ours!

Worthwhile Endeavor

Wisconsin Member Makes Some Interesting Suggestions

DEAR EDITOR:

A copy of the August issue of THE AMERICAN ENGINEER has been given to me recently and I noted with considerable interest the letter by the president of the Reading Chapter in regard to telephone directory listings and the activity of the Essex County Chapter N. J. in the same direction. I tried to stir our local Telephone Co. and the listed engineers to some action in this matter at the time of the last issue of the phone book. A copy of the plan is enclosed in the thought that it may be of some benefit to those planning similar action. No, we were not successful in our attempt, but we shall try again.

In the same issue of the THE AMERICAN ENGINEER I note that the Buffalo Forge Co. will advertise the value of consulting services. This called to mind a local case of a sales representative, who was consistently pressed by his customers to supply "free engineering." He has obtained a rubber stamp for use on his literature and proposals that suggests the engagement of a consultant. These efforts by some manufacturers and their agents are certainly commendable and help to bring recognition to the profession.

Very truly yours,
A. G. BEHLING,
Milwaukee, Wis.

May 24, 1937.

The Wisconsin Telephone Co.
722 North Broadway
Milwaukee, Wis.

Gentlemen:

Among the engineers listed in the classified section of the telephone book we find that there are quite a few who are not satisfied with the present method of listing. We have a plan that some of us definitely favor. Copies of this plan will be mailed to twenty of the engineers listed who will, no doubt, come under the first classification. A copy of that plan is enclosed herewith.

You will note that we have suggested that the engineers who desire this listing communicate directly with you. This was done to enable us to make the change in the new issue of the phone book before May 29th. My change in listing is also enclosed.

We believe that the engineers will better see the value of special listings after they have their regular listing straightened out. Contacting them after this arrangement has proved worthwhile, may result in obtaining more special listings which under the existing system have little value.

Very truly yours,
A. G. BEHLING

The New Telephone Book Goes to Press
Deadline for changes—May 29, 1937

The following plan for classified listing of engineers is submitted to you for action. Copies are being mailed to twenty other engineers and to The Wisconsin Telephone Co. If you approve the listing as suggested will you sign in the space provided, fill in the other data, and mail to The Wisconsin Telephone Co., 722 N. Broadway, Milwaukee.

The new plan proposes the following classifications:

1. For the professional man practicing in all branches of engineering, we propose that the Wisconsin Telephone Co. provide the following classification.

ENGINEERS (Professional)
Practicing engineers registered in Wisconsin

All practicing engineers whether mechanical, civil, electrical or management would be listed under this heading only at no extra charge. Special service listings in addition to the listing hereunder would require the extra charge. Application for this listing should involve the use of the registration card or seal.

2. For the professional man acting as a sales representative who feels that an engineer's listing is necessary, we suggest that the following classification be given.

ENGINEERS (Professional)
Sales Engineers Registered in Wisconsin.

It is not known just how these men list. Perhaps, if they are listed under some other heading they would be required to pay an extra charge to be listed hereunder. Application for this listing should require the use of the registration card or seal.

3. For manufacturers and others who have a registered engineer in their employ and for all non-practising registered engineers who, by circumstance, require a business phone and by virtue of that fact are entitled to a classified listing, we suggest that they use the present caption.

ENGINEERS

We believe this listing will have a short life because it has no apparent value to manufacturers, contractors, or others who would prefer to list under their product in-so-far as possible.

Request to be mailed to the Telephone Co.

Date.....

The Wisconsin Telephone Co.
722 N. Broadway
Milwaukee, Wis.

Gentlemen:

We desire to have our name removed from the classified listing "Engineers" and placed under classification No. ———— as outlined above. We understand that if this change can be made there will not be an additional listing charge.

Very truly yours,
Name .....
Address .....
Registration No. ..... Present Phone No. .....

Washington Society of Professional Engineers

By-Laws

PREAMBLE

CONCERNED with the Public Weal, and

In ORDER to safeguard life, health, and property, by restricting the practice of Engineering to properly qualified persons;

LIKEWISE, to advance the welfare of the Engineering Profession by the establishment and observance of high ethical standards of conduct, and through sponsorship of the creation and enforcement of adequate license laws and practice acts;

ALSO, to place the control of engineering projects within the scope of such laws and acts;

FURTHER, to focus public attention upon the professional standing, functions, requirements, and accomplishments of engineers;

WITHAL, to sponsor and promote honorable procedure tending toward recognition commensurate with the dignity and responsibility of this profession, THE WASHINGTON SOCIETY OF PROFESSIONAL ENGINEERS, has been organized; and to such ends this Society subscribes to the aims and purposes as set forth in the Preamble, Constitution and By-laws of the National Society of Professional Engineers. In order to aid in advancing these ideals in the State of Washington this Society accepts a charter from the National Society, subscribes to the provisions of the National Society Constitution, and herewith sets forth its By-laws, of which this Preamble is a part, hereby adopting and confirming the objects, purposes, powers and privileges specified and granted under and by virtue of its Articles of Incorporation.

ARTICLE I

Section 1. This Society is a member State Society of the National Society of Professional Engineers, and shall be known as the Washington Society of Professional Engineers.

ARTICLE II

Section 1. The Principal office shall be located in the City of Seattle, and shall be designated as State Headquarters.

Section 2. The Principal office may be changed to such other city of not less than ten thousand population within the State of Washington as may be selected by letter ballot, upon recommendation of the Executive Board. A two-thirds affirmative vote, with at least three-fourths of the membership voting, shall be necessary to so select and change.

ARTICLE III

Section 1. The membership of this Society shall be limited to Professional Engineers, registered under the laws of this or any other State. Every member of this Society is a member of the National Society of Professional Engineers. The interest of such member shall be equal to that of any other, and no member can acquire any interest which will entitle him to any greater vote, voice, authority, or interest in the Society than any other member.

Section 2. Membership will be evidenced solely by the official dues receipt adopted by the Executive Board. Upon termination of membership by voluntary withdrawal, by death, or by expulsion, all rights of such member shall immediately terminate and revert to the remaining members, membership being granted upon this express condition.

ARTICLE IV

DUES

Section 1. The dues of this Society shall be Ten Dollars per annum, due at the beginning of the fiscal year on January First; provided, that dues may be paid in installments; Four dollars in January; Two Dollars fifty cents in April; Two dollars fifty cents in July; and Two dollars fifty cents in October. These dues shall be apportioned as follows Four dollars shall be transmitted to the National Society to cover membership dues therein and subscription to THE AMERICAN ENGINEER magazine; the remainder of these dues to be retained by the State Society for its own activities, including assistance to its Chapters.

ARTICLE V

CHAPTERS

Section 1. This Society, through its Executive Board, may authorize and charter one chapter in each County, or group of Counties, of the State. Only registered Professional Engineers shall be admitted to membership in any Chapter, and every member of a Chapter shall be a member of this Society and of the National Society of Professional Engineers. A minimum of five shall be required to form any chapter, and such chapter shall be designated by the name of the city in which its headquarters are situated.

Section 2. Each chapter shall elect: A trustee who shall thereby become a member of the Board of Trustees of the State Society; and a President and a Secretary and such other officers as it may provide by Chapter By-laws.

Section 3. The Executive Board of the State Society shall have authority to make rules and regulations for chartering combining, and/or dissolving chapters.

ARTICLE VI

CONDUCT OF CHAPTERS

Section 1. Each chapter chartered by this Society shall adopt such constitution and by-laws for its internal government as it may deem proper; provided, however, nothing therein shall conflict with or contravene the Articles of Incorporation and by-laws of the Society and shall be in form approved by the Executive Board.

Section 2. Chapter Constitution, by-laws, and Codes of Practice, or any amendments thereto, shall not become effective until approved by the Executive Board of the Society.

Section 3. Chapters shall engage in such activities as are consistent with professional ideals and ethics and are conducive to public welfare. Such activities shall be restricted to the county or counties for which the chapter is chartered, except as the Executive Board may authorize.

Section 4. Chapters shall collect, from their respective memberships, all dues and assessments payable to the State Society and the National Society; and, in addition, may fix and collect such chapter dues as they shall determine necessary for their chapter activities and administrations, as provided in chapter constitution and/or by-laws.

Section 1. It shall be the duty of each chapter to transmit to State Headquarters or to the Society's duly designated officer the following: All State Society and National Society dues, within fifteen days after their receipt; the names and addresses of newly elected, expelled, suspended, or deceased members, at once; and the notices of all meetings and elections.

Section 6. A chapter intending to present a resolution for a vote at any meeting of the State Society, shall mail copies of such resolution to all other chapters and to State Headquarters with a synopsis of the subject, at least three weeks prior to the meeting; or to the Resolutions Committee and to State Headquarters at least four week prior to the meeting.

Section 7. Authority to reprimand members, to suspend from membership temporarily, to expel from membership, shall be vested in the several chapters; provided, however, that in expulsion cases action shall be upon direction of, or after approval by, the Executive Board of the State Society. Chapters may conduct investigations, hearings, and trials, reporting the cause and outcome of same to the Executive Board, review of which shall be as provided in the By-laws.

ARTICLE VII

EXECUTIVE BOARD, OFFICERS AND EXECUTIVE COMMITTEE

Section 1. The affairs and business of the Society shall be managed and controlled by its Board of Trustees, which shall be designated "Executive Board". There shall be one Trustee for each Chapter formed who shall be duly elected by such chapter, thereby becoming a member of the Board of Trustees of this Society by virtue of such election, duly certified by the Secretary of such Chapter to the Board of Trustees, duly qualifying by taking oath of office as Trustee. The number of Trustees shall be not less than five nor more than thirty-nine; provided, that until displaced by the formation of County Chapters, the members of the first Board of Trustees shall be continued in office as Trustees until so displaced, and the Executive Board shall determine their order of displacement. The Trustees shall act only as a Board, and the individual Trustee shall have no power as such.

Section 2. The officers of the Society shall consist of a President, a First Vice President, a Second Vice President, a Treasurer and a salaried Executive Secretary who shall perform the duties usually pertaining to the respective offices. The officers, (except Executive Secretary) shall be elected annually by the Board of Trustees from among its members. The Board of Trustees shall select the Executive Secretary either from

within or without the Board of Trustees.

Section 3. The Executive Committee shall be composed of the officers of the Society, the two immediate past Presidents, and two members of the Executive Board. The President of the Society shall be Chairman. During intervals between the meetings of the Executive Board the Executive Committee shall possess and may exercise the powers of the Executive Board in the management and direction of the affairs of the Society in all cases in which specific directions shall not have been given by the Executive Board; provided, that all action by the Executive Committee shall be reported to the Executive Board at its next meeting succeeding any such action, which shall be subject to revision or approval by said Board. Regular minutes of the proceedings of the Executive Committee shall be kept by the Executive Secretary. Vacancies in the Executive Committee shall be filled by the Board. The Executive Committee may act by written resolution by three-fourths majority thereof although not formally convened; it shall fix its own rules of procedure and shall meet as provided by such rules, or by resolution of the Executive Board, and it shall also meet at the call of its Chairman, or the Executive Secretary, or of any member of the Committee.

Section 4. The actual conduct of the affairs of the Society shall be vested in its officers and the Executive Committee, subject to control at all times by the Executive Board.

Section 5. The Executive Board may delegate from time to time to suitable committees any duties that are required to be executed during intervals between meetings of the Board, and such committees shall report to the Executive Board as and when required.

Section 6. In event a quorum of the Executive Board be not present at any called or stated meeting thereof, the Executive Committee shall thereupon immediately convene and act upon the matters to be brought before such meeting.

Section 7. Chapters shall each elect one of their members to the State Executive Board and shall elect a Chairman and a Secretary and such other officers as they may provide for under Chapter By-laws.

ARTICLE VIII

COMMITTEES

Section 1. There shall be seven standing Committees; namely, Ethics and Practice, Legislative and Enforcement, Public Relations, Membership, Chapter Activities, Rules and Resolutions.

Section 2. The Executive Board shall determine the number of which each standing committee shall be composed.

Section 3. The Chairman and members of standing committees shall be appointed by the President for a period of one year or until discharged, and shall be designated within one month after the election of the President.

Section 4. A Nominating Committee of five members shall, at the Winter Meeting of each Chapter, be nominated and elected from the floor. No Officer or Director shall be eligible for membership on such Committee.

Section 5. An Audit Committee of three members shall, each year, be appointed by the President during the month of January.

Section 6. Special Committees shall be appointed by the President as required. He shall determine the size thereof and shall name the chairman.

ARTICLE IX

GOOD STANDING

Section 1. The Executive Board of the State Society shall have the authority to promulgate rules and conditions of good standing. Unless the Executive Board rules otherwise, a member shall not lose good standing, for non-payment of dues, until he is in arrears for more than two years.

ARTICLE X

MEETINGS

Section 1. Annual Winter meetings of members shall be held by each Chapter on the second Friday in January of each year for the purpose of electing its officers for the ensuing year. Annual Summer meetings and conventions of members shall be held at such time and place as may be from year to year determined by the Executive Board. Notice of each such meeting shall be mailed to each member by the Chapter Secretary not less than three weeks before such meeting. Special meetings of members of Chapters may be called at any time by the Secretary thereof by order of the Chapter Chairman, or upon request of the Society President.

Section 2. The Executive Board may hold their meetings, have an office and keep the books and records of the Society at the office of the Society in the City of Seattle, or may meet at such other place as the Board may from time to time determine.

Section 3. Annual meetings of the Executive Board shall be held on the third Friday in January of each year at the State headquarters of the Society, or such other place as the Board shall determine, at the hour of 2:00 o'clock P. M. No notice shall be required of such annual meetings.

Section 4. Special meetings of the Executive Board shall be held when called by the President, or by the Executive Committee, or upon request of any five members of the Executive Board in writing addressed to the Secretary. The Secretary shall give notice of such special meeting by mailing or telegraphing the same to each Trustee at least five days before the meeting, but such notice may be waived by the Trustee. At any meeting at which every Trustee is present, though without notice, any business may be transacted, and attendance at any such meeting shall constitute waiver of notice.

Section 5. Regular meetings of the Executive Committee shall be held at State Headquarters office in the City of Seattle on the fourth Friday of each month at 3:00 o'clock P. M. No notice shall be required of such regular meeting. Special meetings of the Executive Committee shall be held whenever called by the President or any member of the Committee and the Executive Secretary shall give notice to each member by mail, telegraph, or telephone at least 48 hours before such meeting stating the time and place and purpose thereof

Section 6. A majority shall be necessary to constitute a quorum for the transaction of business at any meeting: (a) of the Executive Board; (b) of the Executive Committee; (c) of State meetings of members; (d) of chapter meetings of members.

ARTICLE XI

CODES

Section 1. The Code of Ethics adopted by the Executive Board, or by the Society upon recommendation of the Executive Board, and any amendments thereto, shall be binding on all chapters. Amendments to the Code of Ethics shall follow in the same procedure as provided in Article XIV for amendments to these By-laws.

Section 2. The several chapters shall adopt Codes of Practice suitable to the districts for which their charters have been granted, which shall be subject to the approval of The Executive Board.

ARTICLE XII

ELECTIONS

Section 1. All officers shall be elected annually except as otherwise provided and shall hold office for one year and until their successors are chosen. Trustees shall be elected each year for a term of three years.

Section 2. All elections shall be by letter ballot. Chapter ballots shall be mailed at least two weeks prior to the date of the meeting at which the election is to be held.

Section 3. A plurality of all votes cast by ballot shall be necessary to elect to any office.

Section 4. Upon the death, resignation, or removal of any Officer or Trustee, the Executive Board may fill the vacancy until the next annual elections.

* * *

letter ballot, at all regular and special meetings of members of the State Society, shall be by delegate.

Section 2. Each Chapter shall be entitled to one vote, plus one additional vote for each five members, in good standing, as reported by the Financial Secretary of the State Society, for the fiscal year preceding that in which the meeting, at which the vote is taken, is convened.

Section 3. Credentials of a delegate shall consist of a letter addressed to the Executive Secretary of the Society over the signature of the Chapter Secretary, stating that such designated Professional Engineer shall be accorded the right to register that Chapter's vote in whole, in part, or split, on any question voted upon. Such credentials shall be presented, in person, to the Chair.

Section 4. Chapters may delegate a member of the State Society who is a member of a Chapter other than that delegating him, but no delegate shall cast the votes of more than two chapters.

Section 5. Chapters may send as many delegates as they desire but each shall have proper credentials which shall state what proportion of the Chapter's vote each is empowered to cast.

Section 6. The Chair shall determine and rule upon the validity of delegate's credentials except that when objection is made as to the propriety of any credential a two-thirds majority of the delegates votes, not in question, shall be required to seat the delegate.

Section 7. A roll call of Chapter delegates may, on any question be dispensed with if no delegate raises objection.

Section 8. When a roll call is necessary the secretary of the meeting shall tally the vote and announce "ayes" and "nays" before the Chair declares the success or failure of the question.

ARTICLE XIV
SEAL

Section 1. The seal of this corporation shall be circular in form, containing in the circle, the words "Washington Society of Professional Engineers" and inside the circle a secondary circle containing the words "Chapter 20 National Society of Professional Engineers" and containing within the circle a cut of the head of George Washington having underneath the words "Established 1937."

ARTICLE XV
COOPERATION

Section 1. This Society shall cooperate with all National and State agencies having allied interests and may give its assistance and support to such agencies. The activities of this Society shall be restricted to the professional interests of the Engineers, leaving all technical activities to the established technical Societies. It shall be the aim of the Society to promote unification of organizations and to discourage duplication of functions.

ARTICLE XVI
RESERVE FUND

Section 1. All divisions of this Society (State and County Chapters) shall operate with maximum economy, and shall endeavor to build up reserve funds to be used only at critical periods for mutual assistance and in carrying out the essential objectives of the organization.

ARTICLE XVII
RULES OF ORDER

Section 1. Robert's Rules of Order shall cover all meetings of the Society and its Chapters in all cases where they are applicable and in which they do not conflict with the By-laws of the Society.

Section 2. The order of business at any regular or special meetings of members or meetings of the Board of Trustees of the Society shall be as follows:

1. Call meeting to order.
2. Roll call.
3. Reading of minutes.
4. Communications.
5. Reports of officers.
6. Reports of standing committees.
7. Reports of special committees.
8. Unfinished business.
9. New business.
10. Good of the Society.
11. Adjournment.

ARTICLE XVIII
AMENDMENTS

Section 1. These By-laws may be amended by letter ballot provided, however, that such amendment shall have been presented to the Executive Board in writing and that, a majority of the Executive Board having approved of the Amendment, it shall have been submitted to the Society for decision at least two weeks prior to the date set for the closing of ballots. A two-thirds affirmative vote, with not less than twenty per cent of the membership voting, shall be required to amend this Constitution or any part thereof.

Section 2. When a proposed amendment is presented to the Executive Secretary in writing and signed by ten per cent of the membership in good standing, approval of the Executive Board shall be unnecessary before submission to the Society, in accordance with Section 1 of this Article.

Section 3. Amendments to these By-laws shall become effective immediately, upon approval as provided in Section 1 of this Article.

Section 4. These By-laws may also be amended by unanimous vote of the Board of Trustees at any meeting called for such purpose and such amendment shall become effective immediately.

An Act to Regulate the Practice of Professional Engineering in Kentucky

Creating a State Board of Registration for Professional Engineers; Defining its Powers and Duties; Imposing Certain Duties Upon the State and Political Subdivisions Thereof in Connection with Public Work; and Providing Penalties

BE IT ENACTED by the General Assembly of the Commonwealth of Kentucky:

Section 1. General Provisions. That in order to safeguard life, health, and property, any person practicing or offering to practice professional engineering, shall hereafter be required to submit evidence that he is qualified so to practice and shall be registered as hereinafter provided; and it shall be unlawful for any person to practice or to offer to practice in this State, professional engineering as defined in the provisions of this Act, or to use in connection with his name or otherwise assume, use, or advertise any title or description tending to convey the impression that he is a professional engineer. unless such person has been duly registered under the provisions of this Act.

Section 2. Definitions—Engineer. The term engineer as used in this Act shall mean a professional engineer as hereinafter defined.

Professional Engineer. The term professional engineer as used in this Act shall mean a person who is qualified by reason of his knowledge of mathematics, the physical sciences, and the principles of engineering, acquired by professional education and practical experience, to engage in the practice of professional engineering as hereinafter defined.

Engineering. The term engineering as used in this Act shall mean professional engineering as hereinafter defined.

Professional Engineering. The practice of professional engineering within the meaning and intent of this Act includes responsible supervision of any professional service, such as consultation, investigation, evaluation, planning, design, construction, or operation, in connection with any public or private untilities, structures, buildings, machines, equipment, processes, works, or projects, wherein the public welfare, or the safe-guarding of life, health or property is concerned or involved, when such professional service requires the application of engineering principles and data.

Practice in Kentucky. The practice of professional engineering in Kentucky is hereby defined to include all professional services defined under "Professional Engineering" above together with the negotiation or solicitation for engineering work on any project within the boundaries of this state, regardless of whether the persons engaged in such practice are residents of Kentucky or have their principal office or place of business in this or any other state or country, and regardless of whether such persons are performing one or all of these duties, or whether they are performed in person or as the directing head of an office or organization performing them.

Act Inapplicable to Certain Operators, Etc. The practice of professional engineering shall not include the work ordinarily performed by persons who operate or maintain machinery or equipment, such as locomotive, stationary, marine or power plant engineers.

Board. The term "Board" as used in this Act shall mean the State Board of Registration for Professional Engineers, provided for by this Act.

Section 3. Board—Appointments—Terms. A State Board of Registration for Professional Engineers is hereby created whose duty it shall be to administer the provisions of this Act. The Board shall consist of five professional engineers, who shall be appointed by the Governor and shall have the qualifications required by Section 4. The members of the first Board shall be appointed within ninety days after the passage of this Act, to serve for the following terms: One member for one year, one member for two years, one member for three years, one member for four years, and one member for five years, from the date of their appointment, or until their successors are duly appointed and qualified. Every member of the Board shall receive a certificate of his appointment from the Governor and before beginning his term of office shall file with the Secretary of State his written oath or affirmation for the faithful discharge of his official duty. Each member of the Board first appointed hereunder shall receive a certificate of registration under this Act from said Board. On the expiration of the term of any member, the Governor shall in the manner hereinbefore provided appoint for a term of five years a registered professional engineer, having the qualifications required by Section 4. to take the place of the member whose term on said Board is about to expire. Each member shall hold office until the expiration of the term for which such member is appointed

or until a successor shall have been duly appointed and shall have qualified. At no time shall more than two members be appointed from the faculties of the Engineering Colleges of the Commonwealth.

Section 4. Board—Qualifications. Each member of the Board shall be a citizen of the United States and a resident of this State for five years and shall have been engaged in the practice of the profession of engineering for at least twelve years, and shall have been in responsible charge of important engineering work for at least five years. Responsible charge of engineering teaching may be construed as responsible charge of important engineering work, provided that at no time shall more than two members whose qualifications are based on responsible charge of engineering teaching, be appointed to the Board. All members of the Board shall be registered Professional Engineers.

Section 5. Compensation and Expenses. Each member of the Board shall receive the sum of not more than Ten Dollars ($10.00) per diem when actually attending to the work of the Board or any of its committees and for the time spent in necessary travel; and, in addition thereto, shall be reimbursed for all actual traveling, incidental and clerical expenses necessarily incurred in carrying out the provisions of this Act.

Section 6. Removal of Members—Vacancies. The Governor may remove any member of the Board for misconduct, incompetency, neglect of duty, or for any other sufficient cause. Vacancies in the membership of the Board shall be filled for the unexpired term by appointment by the Governor as provided in Section 3.

Section 7. Board—Organization and Meetings. The Board shall hold a meeting within thirty days after its members are first appointed, and thereafter shall hold at least two regular meetings each year. Special meetings shall be held at such time as the by-laws of the Board may provide. Notice of all meetings shall be given in such manner as the by-laws may provide. The Board shall elect or appoint annually the following officers: A Chairman, a Vice-Chairman, and a Secretary-Treasurer. A quorum of the Board shall consist of not less than three members.

Section 8. Board—Powers. The Board shall have the power to adopt and amend all by-laws and rules of procedure, not inconsistent with the constitution and laws of this State, which may be reasonably necessary for the proper performance of its duties and the regulations of the proceedings before it. The Board shall adopt and have an official seal.

In carrying into effect the provisions of this Act, the Board, under the hand of its Chairman and the seal of the Board, may subpoena witnesses and compel their attendance, and also may require the production of books, papers, documents, etc., in a case involving the revocation of registration or practicing or offering to practice without registration. Any member of the Board may administer oaths or affirmations to witnesses appearing before the Board. If any person shall refuse to obey any subpoena so issued, or shall refuse to testify or produce any books, papers, or documents, the Board may present its petition to such authority as may have jurisdiction, setting forth the facts, and thereupon such authority shall, in a proper case, issue its subpoena to such person, requiring his attendance before such authority and there to testify or to produce such books, papers, and documents, as may be deemed necessary and pertinent by the Board. Any person failing or refusing to obey the subpoena or order of the said authority may be proceeded against in the same manner as for refusal to obey any other subpoena or order of the authority.

Section 9. Receipts and Disbursements. The Secretary-Treasurer of the Board shall receive an account for all monies derived under the provisions of this Act, and shall pay the same into the Treasury of the State Board of Registration for Professional Engineers of Kentucky. The Board is empowered to establish a Professional Engineers' Fund" (or funds) in such bank or banks as may be approved by the Board, and the monies deposited therein shall be paid out only upon authorization and approval of the Board. The monies in the Professional Engineers' Fund is hereby specifically appropriated for the use of the Board. The Secretary-Treasurer shall give a surety bond to the Board in such sum as the Board may determine. The premium on said bond shall be required as a proper necessary expense of the Board, and shall be paid out of the "Professional Engineers' Fund." The Secretary-Treasurer of the Board shall receive such salary as the Board shall determine, in addition to the compensation and expenses provided for in Section 5. The Board may employ such clerical or other assistants as are necessary for the proper performance of its wok, and may make expenditures of this fund for any purpose which in the opinion of the Board is reasonably necessary for the proper performance of its duties under this Act, including the expenses of the Board's delegates to National Conventions of, and membership dues to, the National Council of State Boards of Engineering Examiners or other affiliated National Boards or Societies. Under no circumstances is the Board authorized to contract any debt, incur any expense, or disburse monies from the Professional Engineers' Fund, which together with the expenses and compensation provided for in this Act, shall in the aggregate, exceed the amount of funds derived under the provisions of this Act.

Section 10. Records and Reports. The Board shall keep a record of its proceedings and a register of all applications for registration which register shall show (a) the name, age, and residence of each applicant; (b) the date of the application; (c) the place of business of such applicant; (d) his educational and other qualifications; (e) whether or not an examination was required; (f) whether the applicant was rejected; (g) whether a certificate of registration was granted; (h) the date of the action of the Board; and (i) such other information as may be deemed necessary by the Board.

The records of the Board shall be prima facie evidence of the proceedings of the Board set forth therein, and a transcript thereof, duly certified by the Secretary of the Board under seal, shall be admissible in evidence with the same force and effect as if the original were produced.

Annually, as of June 30, the Board shall submit to the Governor a report of its transactions of the preceding year, and shall also transmit to him a complete statement of the receipts and expenditures of the Board, attested by affidavits of its Chairman and Secretary-Treasurer.

Section 11. Roster. A roster showing the names and places of business of all registered professional engineers shall be published by the Secretary of the Board during the month of July of each year. Copies of this roster shall be mailed to each person so registered, placed on file with the Secretary of State, and furnished to the public upon request.

Section 12. General Requirements for Registration. The following shall be considered as minimum evidence satisfactory to the Board that the applicant is qualified for registration as a professional engineer, to wit:

(a) *Graduation Plus Experience.* Graduation from an approved engineering curriculum of four years or more in a school or college approved by the Board as of satisfactory standing; and a specific record of an additional four years or more of experience in engineering work of a character satisfactory to the Board, and indicating that the applicant is competent to practice professional engineering (in counting years of experience, the Board at its discretion may give credit, not in excess of one year, for satisfactory graduate study in engineering); or

(b) *Examination Plus Experience.* Successfully passing a written, or written and oral, examination designed to show knowledge and skill approximating that attained through graduation from an approved four-year engineering curriculum; and a specific record of eight years or more of experience in engineering work of a character satisfactory to the Board and indicating that the applicant is competent to practice professional engineering.

(c) *Engineers of Long Established Practice.* A specific record of twelve years or more of lawful practice in professional engineering work of a character satisfactory to the Board and indicating that the applicant is qualified to design or to supervise construction of engineering works and provided applicant is not less than thirty-five years of age.

Character. No person shall be eligible for registration as a professional engineer, who is not of good character and reputation.

Teaching Credits. In considering the qualifications of applicants, engineering teaching may be construed as engineering experience.

Education credits. The satisfactory completion of each year of an approved curriculum in engineering in a school or college approved by the Board as of satisfactory standing, without graduation, shall be considered as equivalent to a year of experience in Section 12 (1) b. Graduation in a curriculum other than engineering from a college or university of recognized standing may be considered as equivalent to two years of experience in Section 12 (1) b; provided, however, that no applicant shall receive credit for more than four years of experience because of undergraduate educational qualifications.

Work as Contractor. The mere execution, as a contractor, of work designed by a professional engineer, or the supervision of the construction of such work as a foreman or superintendent shall not be deemed to be practice in professional engineering.

Non-Practicing Applicants. Any person having the necessary qualifications prescribed in this Act to entitle him to registration shall be eligible for such registration although he may not be practicing his profession at the time of making his application.

Corporations Cannot Register. The practice of engineering is a professional service, admission to which shall be determined upon a basis of individual, personal qualifications. No firm, company, partnership or corporation can be registered.

Liability of Representatives of Non-Registered Persons. It shall be hereafter unlawful for any person, firm or corporation to avoid, or seek to avoid, the provisions of this Act by having a representative or

employee seek engineering work in their behalf, or for them, unless, and until such persons have duly qualified and become registered; otherwise both those represented and the representative, the employer and employee, shall be deemed equally guilty of violation of this Act. Solicitation of engineering work shall be construed as offering to practice professional engineering and it shall be unlawful for any but registered engineers to do so.

Section 13. Applications and Registration Fees. Applications for registration shall be on forms prescribed and furnished by the Board, shall contain statements made under oath, showing the applicant's education and detail summary of his technical work, and shall contain not less than five references, of whom three or more shall be engineers having personal knowledge of his engineering experience.

The registration fee for professional engineers shall be not to exceed twenty-five dollars ($25.00), not to exceed fifteen dollars ($15.00), of which shall accompany application, the remainder to be paid upon issuance of certificate. When a Certificate of Qualification issued by the National Bureau of Engineering Registration is accepted as evidence of qualification, the total fee for registration as professional engineer shall be not to exceed ten dollars ($10.00).

Should the Board deny the issuance of a certificate of registration to any applicant the initial fee deposited shall be retained as an application fee.

Section 14. Examinations. When oral or written examinations are required, they shall be held at such time and place as the Board shall determine. If examinations are required on fundamental engineering subjects (such as are ordinarily given in college curricula) the applicant shall be permitted to take this part of the professional examination prior to his completion of the requisite years of experience in engineering work, and satisfactory passage of this portion of the professional examination by the applicant shall constitute a credit for a period of ten years.

The scope of the examinations and the methods of procedure shall be prescribed by the Board with special reference to the applicant's ability to design and supervise engineering works so as to insure the safety of life, health, and property. Examinations shall be given for the purpose of determining the qualifications of applicants for registration in professional engineering. A candidate failing on examination may apply for re-examination at the expiration of six months and will be re-examined without payment of additional fee. Subsequent examinations will be granted upon payment of a fee to be determined by the Board.

Section 15. Certificates—Seals. The Board shall issue a certificate of registration as "Professional Engineer," upon payment of registration fee as provided for in this Act, to any applicant who, in the opinion of the Board, has satisfactorily met all the requirements of this Act. Certificates of registration shall show the full name of the registrant, shall have a serial number, and shall be signed by the Chairman and the Secretary-Treasurer of the Board under seal of the Board.

The issuance of a certificate of registration by this Board shall be prima facie evidence that the person named therein is entitled to all the rights and privileges of a registered professional engineer, while the said certificate remains unrevoked or unexpired.

Each registrant hereunder shall upon registration obtain a seal of the design authorized by the Board, bearing the registrant's name and the legend. "Registered Professional Engineer." Plans, specifications, plats and reports approved by a registrant shall be stamped with the said seal when filed with public authorities, during the life of the registrant's certificate, but it shall be unlawful for any one to stamp or seal any documents with said seal after the certificate of the registrant named thereon has expired or has been revoked, unless said certificate shall have been renewed or re-issued.

Section 16. Expirations and Renewals. Certificates of registration shall expire on the last day of the month of June following their issuance or renewal and shall become invalid on that date unless renewed. It shall be the duty of the Secretary-Treasurer of the Board to notify every person registered under this Act, of the date of the expiration of his certificate and the amount of the fee that shall be required for its renewal for one year; such notice shall be mailed at least one month in advance of the date of the expiration of said certificate. Renewal may be effected at any time during the month of June by the payment of a fee not to exceed ten dollars ($10.00). The failure on the part of any registrant to renew his certificate annually in the month of June as required above shall not deprive such person of the right of renewal, but the fee to be paid for the renewal of a certificate after the month of June shall be increased ten percent for each month or fraction of a month that payment of renewal is delayed; provided, however, that the maximum fee for delayed renewal shall not exceed twice the normal renewal fee.

Section 17. Practitioners at Time Act Became Effective. At any time within one year after this Act becomes effective, upon due application therefor and the payment of the registration fee not to exceed fifteen dollars ($15.00) for professional engineers, the Board shall issue a certificate of registration, without oral or written examination, to any professional engineer who shall submit evidence under oath satisfactory to the Board that he is of good character, has been a resident of the State of Kentucky for at least one year immediately prior to the effective date of this Act, and was practicing professional engineering at the time this Act became effective, and has performed work of a character satisfactory to the Board.

After this Act shall have been in effect one year, the Board shall issue certificates of registration only as provided for in Section 12 or Section 19 thereof.

Section 18. Public Work. After the first day of May, one thousand nine hundred and thirty-nine, it shall be unlawful for this State or for any of its political sub-divisions, such as a county, city, town, township, or borough to engage in the construction of any public work involving professional engineering, unless the plans and specifications and estimates have been prepared by, and the construction executed under the direct supervision of, a registered professional engineer or a registered architect; provided, that nothing in this Section shall be held to apply to any public work wherein the contemplated expenditure for the completed project does not exceed two thousand dollars ($2,000.00).

Section 19. Reciprocity. The Board may, upon application therefor, and the payment of a fee not to exceed ten dollars ($10.00), issue a Certificate of Registration as a Professional Engineer to any person who holds a Certificate of Qualification or Registration issued to him by proper authority of the National Council of State Boards of Engineering Examiners, or of the National Bureau of Engineering Registration, or of any State or Territory or Possession of the United States, or of any Country, provided that the requirements for the registration of profesional engineers under which said Certificate of Qualification or Registration was issued do not conflict with the provisions of this Act and are of a standard not lower than that specified in Section 12 of this Act.

Section 20. Revocations. The Board shall have the power to revoke the certificate of registration of any registrant who is found guilty of:

(a) The practice of any fraud or deceit in obtaining a certificate of registration;

(b) Any gross negligence, incompetency, or misconduct in the practice of professional engineering as a registered professional engineer.

Any person may prefer charges of fraud, deceit, gross negligence, incompetency, or misconduct against any registrant. Such charges shall be in writing, and shall be sworn to by the person making them and shall be filed with the Secretary-Treasurer of the Board.

All charges, unless dismissed by the Board as unfounded or trivial shall be heard by the Board within three months after the date on which they shall have been preferred.

The time and place for said hearing shall be fixed by the Board, and a copy of the charges, together with a notice of the time and place of hearing, shall be personally served on or mailed to the last known address of such registrant, at least thirty days before the date fixed for the hearing. At any hearing, the accused registrant shall have the right to appear personally and by counsel, to cross-examine witnesses appearing against him, and to produce evidence and witnesses in his own defense.

If, after such hearing, three or more members of the Board vote in favor of finding the accused guilty, the Board shall revoke the certificate of registration of such registered professional engineer.

Reissuance of Certificate. The Board, for reasons it may deem sufficient, may re-issue a certificate of registration to any person whose certificate has been revoked, providing three or more members of the Board vote in favor of such reissuance. A new certificate of registration, to replace any certificate revoked, lost, destroyed, or mutilated, may be issued, subject to the rules of the Board, and a charge of not to exceed three dollars ($3.00) shall be made for such issuance.

Appeals. Any person who shall feel aggrieved by any action of the Board in denying or revoking his certificate of registration may appeal therefrom to the Circuit Court held in Frankfort, Ky., and after full hearing, said Court shall make such decree sustaining or reversing the action of the Board as to it may seem just and proper.

Section 21. Violations and Penalties. Any person who shall practice, or offer to practice, professional engineering in this State without being registered in accordance with the provisions of this Act, or any person presenting or attempting to use as his own the certificate of registration or the seal of another, or any person who shall give any false or forged evidence of any kind to the Board, or to any member thereof in obtaining a certificate of registration, or any person who shall falsely impersonate any other registrant of like or different name, or any person who shall attempt to use

an expired or revoked certificate of registration, or any person, firm, or corporation who shall furnish free engineering services as a part of any other contract so drawn as to defeat the spirit of this Act, or any person who shall violate any of the provisions of this Act, shall be guilty of a misdemeanor, and shall, upon conviction, be sentenced to pay a fine of not less than one hundred dollars ($100.00), or more than five hundred dollars ($500.00), or suffer imprisonment for a period not exceeding three months, or both.

The Board, or such person or persons designated by the Board, is empowered to prefer charges for any of the above violations in any Circuit Court of the state. When such charges have been properly brought it shall be the duty of the Attorney General and the Commonwealth's Attorney of any Circuit Court District to enforce the provisions of this Act and to prosecute any person violating the same. The Attorney General of the State, or his assistant, shall act as legal advisor of the Board and render such legal assistance as may be necessary in carrying out the provisions of this Act.

Section 22. Saving Clause. This Act shall not be construed to prevent or to affect:

(a) *Other Professions or Trades.* The practice of any other legally recognized profession or trade; or

(b). *Non-Residents.* The practice of a person not a resident of and having no established place of business in this State, practicing or offering to practice herein the profession of engineering when such practice does not exceed in the aggregate more than thirty days in any calendar year; provided, such person is legally qualified by registration to practice the said profession in his own State or Country in which the requirements and qualifications for obtaining a certificate of registration are not lower than those specified in this Act; or

(c) *Recent Arrivals in State.* The practice of a person not a resident of and having no established place of business in this State, or who has recently become a resident thereof, practicing or offering to practice herein for more than thirty days in any calendar year the profession of engineering, if he shall have filed with the Board an application for a certificate of registration and shall have paid the fee required by this Act; provided, that such a person is legally qualified by registration to practice said profession in his own State or Country in which the requirements and qualifications for obtaining a certificate of registration are not lower than those specified in this Act. Such practice shall continue only for such time as the Board requires for the consideration of the application for registration; or

(d) *Employees and Subordinates.* The engaging in engineering as a pupil of, or under the direction of, a registered professional engineer, or as an employee or pupil of, or under the direction of, a professional engineer, authorized by paragraphs (b) and (c) of this section, provided that said practice may not include responsible charge of design or supervision as principal; or

(e) *Government officers and Employees.* The practice of officers and employees of the Government of the United States while engaged within this State in the practice of the profession of engineering for said Government, or

(f) The practice of architecture of a person registered as an architect under any act of the Commonwealth relating to the practice of architecture where the practice of such person is confined to architecture and where engineering is incidental to such practice; or

(g) An engineer engaged solely as an officer or employee on a privately owned public utility; or as an officer or employee of a corporation engaged in interstate commerce as defined in the Act of Congress, entitled "An Act to Regulate Commerce" approved February 4, one thousand eight hundred and eighty-seven as amended; or

(h) The practice of any elective officer of the State, County, or other political subdivision while carrying out the duties of the office to which he was elected.

Section 23. Quarters. Suitable office quarters shall be provided by the Board at its own expense.

Section 24. Invalid Section. If any Section, or Sections of this Act shall be declared unconstitutional or invalid, this shall not invalidate any other Section of this Act.

Section 25. Repeal of Conflicting Legislation. All laws or parts of laws in conflict with the provisions of this Act shall be, and the same are hereby repealed.

Section 26. Short Title. This Act may be cited as "The Engineering Act of 1938."

Report of Committee On Uniform Examinations

National Council of State Boards of Engineering Examiners

Recently, the chairman of this committee took it upon himself to send out a questionnaire to the various boards, the chief purpose of the questionnaire being to determine how uniform the boards were insofar as examinations were concerned. The response was highly satisfactory as thirty-three boards replied, thereby enabling us to establish a nearly complete picture of the procedure of the boards in conducting examinations.

The following are the answers to the questionnaire:

Do you conduct written examinations? 29 yes; 3 no; 1 not yet (only 1 yr. old).

What is the length of total examination in hours? 6 to 24—average 14 hours.

Is your examination common to all branches of engineering? 25 differentiated; 4 common.

If not, in what different branches of engineering do you give examinations? Generally civil, electrical, mechanical, and chemical. However, following were mentioned: agricultural, architectural, ceramic, highway, hydraulic, industrial, irrigation, logging, marine, metallurgical, mining, municipal, naval architect, sanitary, structural, valuation.

What engineering subjects do you cover in your examinations? Very wide variety, including practically all subjects taught in engineering curricula. However, mathematics, mechanics, strength of materials most common.

Do you allow reference books to be used in all 8, most of *7,* part of *11,* none of *2,* your examinations?

What candidates, if any, do you exempt from written examinations? All boards provide for registration by exemption for candidates resident in other states and countries. It was rather difficult to interpret some of the answers but so far as could be determined the following is true in regard to the registration of citizens of the various states by their own boards. This does not include the so-called grandfathers who are exempt from examinations by law. Nine make no exemption; six exempt men of outstanding experience altho some of these may have referred only to citizens of other states; seven exempt candidates whose experience is satisfactory to the Board, no statement being made as to what is considered satisfactory; three exempt candidates who are engineering college graduates with four or more years of experience; two exempt college graduates whose experience is satisfactory to the Board; one exempts graduates of engineering curricula approved by E. C. P. D., and one exempts candidates who have been in the military service.

Do you require an oral examination in addition to the written examination? 16 yes, 10 no, 4 sometimes.

What is the average length of the oral examination? 15 minutes to 4 hours—average 54 minutes.

What are the passing requirements of your total examination, including oral examination if given? Four with 70 average and 60 minimum; twenty average 70; one average 72; two average 75; one average 60 with minimum of 50.

How often do you conduct examinations? 19 twice a year; 5 three times a year; 2 four times a year; 2 at no stated time.

What is the approximate number of candidates at each examination period? 1 to 253. Average—26.

About what per cent of candidates taking examinations the first time pass the entire examination? None to 90%. Average—58%.

Approximately, how many engineers have you registered to date by examination? None to 2,469. Total 8,995. Average—346. Three did not report.

Approximately, how many engineers have you registered to date to exemption? 40 to 14,900. Total 38,198. Average 1.364. Five did not report.

It would appear from the above that very few boards attempt to follow the outline for a uniform examination adopted by the Council some few years ago. Perhaps this is as it should be, at least for the present while we are all in a more or less experimental stage. At any rate, with as much variety as there appears to be, we may all profit by the experience of others and eventually evolve a procedure considerably better than the one already adopted.

Respectfully submitted,

C. H. Currie
Boyd S. Myers
L. F. Van Hagan
Blake R. Van Leer
C. T. Olmsted, *Chairman*

New Jersey Association of Professional Engineers and Land Surveyors Committee Report on Status of Land Surveyors

Foreword.

The two problems of license for the land surveyor and the professional status of the licensee have numerous and diverse ramifications. These problems transcend the boundaries of New Jersey and are existent in other States. New Jersey has been a pioneer State in adopting licensing laws and in the formation of a State society of licensed professional engineers and land surveyors.

Fundamental Concepts.

The preamble to practically every registration or licensing statute contains this significant phrase or its equivalent, "in the interests of public welfare, safety, health and property, etc." Since so much of our discussion in recent years has revolved around what benefit the profession or individual might derive through licensing, it is apropos to consider the public interest as paramount. In the last analysis the great wealth of our country amounting to over 300 Billion Dollars is represented by land, structures erected thereon and potential uses we can make of lands. Certainly, the correct and accurate delineation of so much wealth is a matter of public welfare. The uses of land are many. Use requires access to both the owner and the public. The work of the surveyor is therefore intimately associated with public property. The actual use of land connotes a boundary defining the limits of its usefulness. Occasionally boundary disputes become a matter of public safety. Since the work of the land surveyor is so intrinsically associated with both public welfare and public property and related to public safety the regulation of the practice of land surveying to those competent and qualified is more than justified on the basis of public interest. The public, therefore, believing that it would be more competently served, has consented to the passage of licensing or registration acts in 38 States. Considerable variation occurs in the statutes, and in their administration and interpretation, giving rise to a number of problems.

Problems.

(1) Land Surveying is defined in the New Jersey statute, Chapter 224, P. L. 1921, as follows:

> "16. Land surveying as covered by this act refers to surveys for the determination of areas for the establishment or re-establishment of land boundaries and the subdivision and platting of land. Nothing in this act shall be construed as prohibiting licensed professional engineers from making land surveys where such surveys are essential to engineering projects, nor as prohibiting any person from doing land surveying, provided, he does not hold himself out to be a licensed land surveyor and accept or receive compensation for such service."

Other States have similar definitions. In the model registration law, "the practice of land surveying within the meaning and intent of this Act includes surveying of areas for their correct determination and description and for conveyancing, or for the establishment or re-establishment of land boundaries and the plotting of lands and subdivisions thereof." Interpretations of these definitions vary from a restricted viewpoint where the sphere of activity for the surveyor is considered limited to the establishment and resurvey of private boundaries and the resurvey of established public boundaries to a liberal viewpoint including the above and in addition, the subdivision of acreage into building lots, establishment of new street lines and grades, preparation of ordinances, tax and zoning maps, etc., which might be considered in the category of municipal engineering. "Surveys where such surveys are essential to engineering projects" is also difficult to define. The professional engineer and unfortunately all too many professional engineers other than civil or mining engineers whose training has been limited to a two or three credit hour course with little or no field experience, interpret this to mean all surveys on an engineering project including boundary surveys. The land surveyor interprets this phrase as limiting the professional engineer and particularly professional engineer other than civil or mining engineers to what we might call construction surveys and excluding boundary surveys.

(2) The practice of land surveying by two distinct groups, the individual licensed as a land surveyor only and professional engineer creates a delicate problem of ethics. The surveyors rightfully feel that professional engineers other than the civil and mining group are not qualified either by training or experience to do surveys connected with boundaries. This problem is identical with the problem of professional engineers practicing in fields other than those in which they are particularly qualified.

(3) In general the educational and experience requirements for the land survyor's license are lower than for the engineers' license giving rise to the feeling on the part of some engineers that the land surveyor is inferior, and should be excluded from membership in the County Chapter, State Society and National Society. The statement, "This is the only Society limiting its membership to professional engineers" has frequently been made.

(4) The number of individuals licensed as land surveyor alone varies from 6% to 8% of the total licensees. In addition, at least 15% to 20% of the individuals licensed as both engineer and land surveyor, or another 6% to 8% of the total are largely engaged in land surveying work and their sympathies are with the land surveyor.

(5) During depression, a great number of projects were initiated by various governmental agencies for the welfare of the engineer. Many were largely surveying work and some of these are still continuing today. Many men were assigned to these projects with little or no experience in surveying work. Some of these inexperienced men have now acquired a limited knowledge of specialized types of surveying work such as leveling, precise, traverse, and topographic mapping which have little relation to surveying for the establishment and description of boundaries. It has been stated "that depression has produced the greatest crowd of pseudo or mushroom surveyors the country has ever known." The public interest and our own professional standards demand protection from these would-be practitioners.

(6) Some of our larger and better equipped high schools have installed elementary surveying courses for the laudable purpose of better preparing students for college. Unfortunately, many of these boys never reach college, and others who do fall by the wayside for various reasons before graduation. After working a year or two in various capacities on a survey party, these men are applying for license as a surveyor. There is a grave tendency manifest here to place the practice of surveying in a class with a trade.

(7) We have heard a great deal the past few years concerning the coordination or integration of the work of various groups of surveyors. The U. S. Coast and Geodetic Survey has proposed the grid system already legalized in New Jersey and some other States. The idea of "hitching every survey to the stars" is most commendable and certainly in the public interest. However, before this idea and others make progress, surveying must be practiced by men more adequately trained in mathematics, geodesy, and astronomy, to improve technical performance and in such subjects as ethics, English, public speaking and psychology, to promote a better public and professional understanding.

(8) The general problem of education so well defined by Dr. James Rowland Angell, retiring president of Yale, in an interview with L. H. Robbins.

> "The task of education today is more than ever before in the field of morals. The attitude of a man toward his job in the world is much more important than his intellectual equipment for the job. If he does not approach the world with an intelligent social altruism and with the willingness to impose upon himself a high degree of social discipline under which he will forego some of the individual prerogatives which he once could claim, then he is not yet educated."

Recommendations.

In view of the above problems as outlined, these ideas are offered for your consideration.

(1) The elimination, in the future, after due notice is given, of the land surveyor's license as a separate license for new applicants, thereby eventually limiting the practice of land surveying to four-year engineering graduates of our recognized schools. Such action would tremendously raise the standards of practice and largely prevent so many surveyors being recruited "from the ranks." With no more graduates from "the school of experience" educational institutions would be forced by demand to give more adequate and complete training in surveying. The large number of men now practicing surveying wholly or in part would certainly justify a surveying option in the civil engineering curriculum if not a complete specialized training were it not for the fact that now so many surveyors come "from the ranks."

(2) Since the model registration law will undoubtedly be used as a basis for the passage of license laws in the States not now having such statutes, and is being used in States revising their laws, a revision is recommended eliminating the land surveyor classification, thereby placing the practice of land surveying on a basis comparable in every respect to professional engineering.

(3) Continuation of all land surveyor licenses now in force until cancelled by death or failure to renew.

(4) Further study to more accurately define the sphere of activity in surveying for (a) the land surveyor only; (b) the professional engineer specializing in civil and mining engineering; and (c) the professional engineers of other specialties to promote more ethical practice.

(5) Greater emphasis by educational institutions on surveying courses.

(6) The introduction as new subjects, not only for their value in surveying instruction but also for their general educational value, such topics as ethics, study of registration laws, professional practice and others which will more properly orient the student in his profession.

Committee:

Essex—Andrew F. Eschenfelder
Union—Harry L. Paff
Passaic—L. Martin Harris
Hudson—Herbert Hartman
Middlesex—To be appointed
Morris—To be appointed
Monmouth—Oliver Newman
West Jersey—Claire E. Tilton
Bergen—To be appointed
South Jersey—Benjamin A. Sleeper
Paul P. Rice, Chairman

TO ALL STATE SECRETARIES.

FELLOW ENGINEERS:

President Roosevelt has recommended to Congress policies designed to curtail expenditures for Federal-aid to Highways.

The economic justification for the continuance of the Federal-aid program is quite obvious to you as an engineer. This presents an opportunity for you to assist by apprizing your representatives immediately of your opinion on the matter. Congressmen want your advice, so give it to them—through your State Society and forward copies of your resolutions or petitions to this office.

The National Society of Professional Engineers has already made presentations on the matter.

A limited number of additional copies of the enclosed paper titled "There Should Be No Reduction in Federal Highway Appropriations" may be had by addressing this office.

National President Sheridan will address your State Society president on this matter.

Faithfully yours,
WILLARD S. CONLON,
Executive Secretary.

INTERNATIONAL PRESTIGE

India,
Nov. 23, 1937.

Engr. M. C. Gajaraj Moodaliar,
Sub Overseer, P. W. D.,
P. O. Raichur (M. S. M. Rly),
India.

DEAR ENGR. MOODALIAR:

I am delighted to learn through yours of Oct. 22 of your keen interest in and desire to become a member of the National Society of Professional Engineers. The National Society of Professional Engineers is a federation of State Societies of Professional Engineers and fills the same position in the engineering profession as does the Medical and the Bar Associations in their respective professions.

Membership as you will note in the enclosed booklet is restricted to legally recognized practitioners in the 38 states and 3 U. S. possessions now having professional engineers license laws, and in those states not yet having license laws to those engineers having the qualifications as specified in the model law, copy of which is also enclosed herewith.

I am enclosing also an application blank and suggest that you review the requirements of the model law before filling in same. If you meet these requirements we shall be delighted to submit your application to the Examining Committee for immediate consideration as a member at large in the Society. Their acceptance of your application would entitle you to all the honors and privileges accorded to any member of our State Societies.

Under separate cover I am forwarding to you with our compliments a complete set of the American Engineer for 1937 to and including November. I look forward with keen pleasure to the receipt of your application.

Most sincerely yours,

WILLARD S. CONLON,
Executive Secretary.

P. S. The dues for members at large is $10 per year and should accompany application. There is no initiation fee.

STEVENS INSTITUTE

SEEKS $7,000,000

Wants to Widen Its Work to Develop Industrial Leaders, Not 'Just Good Engineers'

New Goals Presented

President Davis Calls for More Statesmanship, Less Politics in Public Affairs

From the New York Times, Dec. 2, 1937

A campaign to raise a fund of $7,000,000 for the development of Stevens Institute of Technology, to enable it "to do its share in equipping the young men of today to manage the industries of tomorrow," was announced last night at the thirty-fifth annual dinner of the Stevens Alumni Association at the Hotel Astor.

The announcement was made in the presence of more than 700 graduate engineers and guests by Robert C. Stanley, chairman and president of the International Nickel Company of Canada, Ltd., and chairman of the Stevens board of trustees. Mr. Stanley called upon the trustees and alumni to "spend time and thought on the problems of financing and equipping the college to train men to be more than just good engineers."

"We need men," Mr. Stanley declared, "whose scientific approach to the problems of industry and whose knowledge of labor will enable them to assume wide responsibility."

Other speakers included Dr. Willis R. Whitney, vice president in charge of research for the General Electric Company; President Harvey N. Davis of Stevens and Thomas N. McCarter, president of the Public Service Corporation of New Jersey. William Cullen Morris, vice president and chief engineer of the Consolidated Edison Company of New York and president of the Stevens Alumni Association, was toastmaster. Executives of leading industrial corporations attended.

Financial Plan Outlined

The Stevens financial plan will embrace two parts, Mr. Stanley said:

"First, an immediate and concerted effort to raise $2,500,000 to be used for canceling the current deficit, largely due to years of depression; for balancing the budget, and to protect and augment the personnel of our faculty.

"Second, a long-term effort-possibly five years or more—to obtain $4,500,000 for modern buildings and facilities necessary to enlarge the scope and perpetuate the life of the college."

Referring to adverse comment directed at leaders in industry in recent years, Mr. Stanley said:

"Much of it, to my mind, has been entirely unjust criticism, and has in no way been founded upon fact. Such criticism, however, whether favorable or adverse, signifies an awakening public interest in the relationships that exist between the business administrator and the wage-earner—and the government as well."

President Davis advocated the development of an enlightened industrial administration as the best way out of the chaos of world affairs and defined the industrial administrator as "an engineer with technical skill, historical perspective, social awareness and clear vision." He urged an increasing supply of such men as the only way to "sound, orderly evolution toward socially desirable goals."

Two Paths Seen Open

There are two paths, Dr. Davis said, along which these goals could be achieved, one "lying through the jungle of political affairs and the other in the field of industrial administration."

"Along the political path," he said, "there must be less politics and more statesmanship, less expediency and more sound leadership. To some of us the path of enlightened industrial administration seems the more hopeful."

Mr. McCarter attacked the Administration in Washington, saying government policies were "paralyzing" the railroads, public utilities and banking.

"There has been for four years a determined effort on the part of the Administration to ruin the public utilities," he said. "I don't deny that in times past there have been some abuses in the public utility business which should be corrected, but I do say that nothing can more greatly stagnate the go-ahead business in this country than to deprive them of the opportunity for new capital, which will set hundreds of thousands of men to work, and bring in commodities all over the world."

What Am I Living For?

The adventure of living; the creation of something beautiful; the thrill of endeavor and achievement; the fullest use of such talents as God has given me for the advancement of my profession and the progress of Civilization; the helping of others; the spreading of happiness and kindliness; the peaceful joys of home and loved ones; the enjoyment of the rich treasures of music, art and literature of the past; and the passing on of something of beauty, truth, ideals and vision to leave the world a better place than I found it and to help carry Humanity forward and upward toward its goal.

D. B. Steinman.

NEWS OF STATE SOCIETIES

EDITOR'S NOTE: If your State Society is not represented in this month's news, contact your State Secretary and ask him to send monthly information to the editor. Please put THE AMERICAN ENGINEER, 222 North Third Street, Harrisburg, Pennsylvania, on your mailing list for all chapter and State Society Bulletins.

CONNECTICUT

The CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS held its November dinner meeting at Church-Wall, New Haven, Conn., President Allan Hubbard acted as toastmaster. He told of the very successful meeting of the National Society of Professional Engineers recently held in N. Y. C.

Each member was asked to enlist in a concentrated drive to secure at least one additional member during the year. The secretary read the minutes of the last meeting pertaining to the Dutch Treat Dinner held at the Brown Stone Front in which members of the Connecticut Society of Civil Engineers were guests.

Mayor John W. Murphy of New Haven expressed appreciation of the fine work which the engineers are doing in working hand-in-hand with the political agencies of the city in the common interest of solving some of the city's engineering problems.

Judge Roscoe Steffens of the Yale Law School gave a fine talk on the Supreme Court. He explained the three basic branches of our government which consist of Congress or the legislative group, the President as the executive head, and the Supreme Court as the judicial division. In the early days of the Supreme Court it was their function to arbitrate and pass on the legal aspect of matters which had been acted on by the lower courts. The Supreme Court merely acted as a last word in the problems having to do with legal matters. As time went on, the problems presented were far more complicated and involved not only questions of law but also of policy of the government. Judge Steffens traced the oppositions and fights which the various presidents have had with the Court in the past, explaining that President Roosevelt was not the first president to have a misunderstanding concerning the Supreme Court.

Engineer John C. G. Wendes gave a talk on "Engineering in the Wilds of Central Africa, or Three Years Among Cannibals." He told of the interesting problems encountered in trying to build roads and bridges in the wilds of Africa. The bridges were completely assembled in England, disassembled for shipment to Africa, and upon their arrival in Africa, were taken over roads built especially for that purpose. The bridges were then completely re-assembled. Supplementing his talk on engineering, Engineer Wendes told of living conditions, customs and habits of the natives which proved quite interesting.

Moving pictures showing the highlights of the games played this season by Yale were shown, illustrating the fine work of the team.

DISTRICT OF COLUMBIA

The annual meeting of the District of Columbia Society of Professional Engineers was held January 11th in the Meridian Room, 2400 Sixteenth Street, N. W., Washington, D. C. Dinner was scheduled for 6:30 o'clock, followed by the annual meeting and election of officers and the showing of a talking picture "Heat and Its Control" by Johns Manville Corporation.

Proposed engineers for 1938 elective offices were as follows:

OFFICERS

President, Virgil C. Wagner; Vice President, Joseph Barnett; Secretary, William L. Bach; Treasurer, M. C. Steuber.

DIRECTORS

Leo. H. Cleary, Milton Kellert, Col. Walter L. Simpson, Richard A. Jobes, Maurice D. Kiczales.

SUPERVISORS

John W. Dunham, Walter I. Swanton, Winfred Morril.

NOMINATING COMMITTEE

Engr. Lord G. D. Leslie, Engr. Lansing E. Van Allen, Engr. Stanley G. Simm.

ILLINOIS

SURVEYORS' LICENSE LAW

At the last session of the Legislature a law was passed requiring the registration of professional land surveyors in the State of Illinois. This law prohibits the practice of land surveying without a license from the State, but it provides that those who are now practicing or who have practiced professional land surveying in this State during the past five years and who make application for a license, or certificate, before January 1, 1938, *"shall be issued a certificate of registration without examination."*

It behooves those who are eligible and who wish to secure a certificate, to ACT promptly. Blank application forms together with a copy of the law can be secured upon application to the Department of Registration and Education at the State House in Springfield, or by addressing the request to the Secretary of this Society, 204 Engineering Hall, Urbana. Illinois.

ILLINOIS ENGINEERING COUNCIL

The creation of the Illinois Engineering Council by the Boards of Direction of the Western Society of Engineers and the Illinois Society of Engineers was announced in last month's issue of the *Illinois Engineer*. The following have been appointed to organize Council: F. F. Fowle, member W. S. E.; C. H. MacDowell, member W. S. E.; A. J. Schafmayer, member W. S. E. and I. S. E.; W. D. Gerber, member W. S. E. and I. S. E.; J. A. Harmon, member W. S. E. and I. S. E.; and L. K. Sherman, member W. S. E. and I. S. E.

ROCK RIVER CHAPTER

Rock River Chapter of the Illinois Society of Engineers was officially chartered on Friday evening, October 15, at a gathering of more than a hundred members of the profession which was held at the Hotel Nachusa. The charter was presented to President C. J. McLean by W. D. Jones of Chicago, president of the Illinois Society of Engineers, with officers and delegates from other chapters throughout the state in attendance.

Hon. John P. Devine, former speaker of the Illinois House of Representatives, was the principal speaker on the program which followed a banquet. "The Engineer's Place in the Economic Development of Illinois" was the subject upon which he spoke briefly. Commenting upon the offorts being made by Illinois engineers to gain legislative recognition, the speaker stated that the beauticians, horseshoers, and barbers had taken such a step in which they had become successful and were licensed and said it was his opinion that the engineers of the state were entitled to the same recognition and an equal official standing in Illinois.

"Before being admitted to the bar of this state it is necessary that the applicant pass an examination in which certain qualifications must be shown before recognition is accorded by the Supreme Court of Illinois. The same rule applies to the medical profession and I believe should be applicable if the engineers are to be officially recognized. In perfecting your organization and outlining your program, first agree upon the legislation desired, then present your program to the proper authorities and I have no doubt but that recognition will be forthcoming from the Illinois Legislature."

Professor H. E. Babbitt, of the University of Illinois, secretary and treasurer of the State society, addressed the engineers on the subject, "History and Aims of the Illinois Society of Engineers," which was interesting and entertaining. He opened his talk by congratulating the officers of the Rock River chapter for the evidence of cooperation in the large number present at the Chapter night program.

"Engineering is an ancient and honorable profession, while it is not the oldest," Professor Babbitt said in his opening remarks. "The Illinois Society of Engineers was organized fifty-one years ago at Urbana, the sole purpose of the organization being for the members to meet and discuss details of the profession. In recent years a severe blow has been dealt to the Illinois engineers which necessitates action. At this point I desire to make clear the fact that professional engineers are not combatting with trade unionism and are not antagonistic to trade unionism."

He stated that the Illinois Society of Engineers was recognized and represented in the national organization of professional engineers and was also affiliated with the American Engineers' Council. He urged the Rock River chapter members to take a greater interest in the municipal affairs of Dixon and closed his talk by stating that three new chapters had been formed in Illinois this year.

President W. D. Jones in presenting the charter congratulated the new organization for both the number represented in its first gathering and for the fine enthusiasm displayed. He stressed the fact that the engineering profession was not alone a welfare organization but a society of engineering.

"The American engineers," President Jones stated, "do not lean upon our government, but work for all humanity. If it were not for the machines that the engineers have invented, there would never have been the talk of a forty-hour week. A professional engineer is a man who uses his brain power to produce man power. The evidence that the engineer is coming into his own is best displayed by his own desire and enthusiasm to become an engineer."

In accepting the charter, President McLean said that through the new organization public interest could be promoted in the engineering profesion, knowledge could be improved and the skill of the engineers increased. Members of the Chapter then signed the charter.

In opening the program, President McLean introduced distinguished guests in attendance, among whom were O. F. Goeke, chief engineer of the Dixon district offices of the Illinois Department of highways; L. E. Smith, superintendent of the Medusa Cement Company of this city; and Bernard Atkins and M. G. Amson of the Springfield Chapter. He then presented James R. Palmer of Dixon, who presided as toastmaster during the evening. Merton M. Memler of the Highway Department force of engineers led the group in singing before the serving of the banquet, and the officers of the Chapter were also presented as follows: President, C. J. McLean; vice-president, William H. Haeflinger; secretary-treasurer, A. H. Ferger; executive committee members, Ralph F. Ferguson, Dixon; Raymond Wagner, Rockford.

CAPITAL CHAPTER

Seven hundred persons crowded into the centennial building auditorium in Springfield on November 1 to hear "Adventures in Electricity," a lecture by Dr. Philips Thomas of the Westinghouse research laboratories. The lecture was sponsored by the Capital Chapter of the Illinois Society of Engineers.

Dr. Thomas, in presenting several interesting experiments and illustrations of electrical feats, stressed the importance of research with what he called "these gadgets" to the comfort and convenience of modern living through the attack and solution of problems confronting industry.

The speaker opened the series of demonstrations with an improved air filter, which, through an ionization process removes 100 per cent of dirt and particles from the air as compared with the 90 per cent accomplished by mechanical filters. Using tobacco smoke, which the filter cleared completely, to show the possibilities, Doctor Thomas stated it was hoped a model of the filter for home use would soon be ready.

Other examples included a simplified demonstration of "dampers" for transmission lines which have materially reduced sleet storm line breakage; the use of the new permanent magnet alloy; the use of the stroboscope in examining wear in rotating and scillating mechanical parts; the apparent "stopping" of a ball fired from a gun; and the use of the light relay or "electric eye" for theft prevention.

Charles Slaymaker, president of the local Chapter, introduced S. J. Sibley of the city water, light and power department, who introduced the speaker. Other officers of the chapter are Harry H. Coe, vice-president, and W. B. Walraven, secretary-treasurer.

LAKE COUNTY CHAPTER

The meeting was held at the Clayton Hotel, Waukegan, Wednesday, October 13, 1937. Dinner was served at 6:30 p. m. There were twenty-one present.

The meeting was called to order at the conclusion of the dinner by President Lodell.

The minutes of the preceding meeting were read, accepted, and placed on file.

President Lodell led the discussion in regard to a report of some unethical engineering practice in another section of the State that should be condemned. It was brought out that the State Society had already filed its objections. No official action by the Chapter was taken at this meeting.

Mr. Anderson led the discussion on the Land Surveyors' Registration Law. After the discussion regarding the appointment of the Examining Committee, motion was made by Mr. Thacker and seconded by Mr. Anderson that the Secretary be and hereby is instructed to write the Director of Registration and Education, John J. Hallihan, Springfield, Illinois, asking if such appointments had been made, and upon receipt of a reply that they have not been named, the Secretary to inform the Director that the Lake County Chapter of the Illinois Society of Engineers endorsed Mr. W. D. Jones, of Chicago, and Mr. Neil N. Campbell, of Lake Forest, for such appointments. The motion carried.

SOCIETY EVENTS

ROCK RIVER CHAPTER. A meeting was held at the Elks Club in Dixon at 7:30 p. m. on Friday, November 12. A short business session was followed by an address on the engineering problems of "Illuminating Gas Production," together with a moving picture on a subject of engineering interest. A report of the meeting will appear in the next issue of the *Illinois Engineer*.

The annual meeting of the Chapter will be held on the second Friday in February.

BOARD OF DIRECTION: The Board of Direction held its regular fall meeting at the Hamilton Club in Chicago on Nov. 13. The date for the Annual Meeting and outlines for the program were adopted, together with other business of interest. A full report will appear in next month's issue of the *Illinois Engineer*.

CAPITAL CHAPTER: An account of the recent meeting of the Capital Chapter on Monday, November 1, appears elsewhere in this issue. The next regular meeting of the Chapter will be held in December, but plans for this meeting have not yet been announced.

LAKE COUNTY CHAPTER: The October meeting was held at the Clayton Hotel, in Waukegan on October 13, a report of this meeting appearing elsewhere in this issue. The November meeting was held at the Deer Path Inn in Lake Forest. This was the first time a meeting was held outside of Waukegan and its success indicates the interest of the members in travelling about within the Chapter's boundaries.

THE SOCIETY'S ANNUAL MEETING: The 53d Annual Meeting of the Society will be held in Peoria on January 27, 28, and 29. All members are requested to reserve these dates so that they may be in attendance.

I. S. P. E. NEWS LETTER

Issued by the Indiana Society of Professional Engineers, Inc.

STOTSENBURG-FRITZ MEMORIAL. It was announced by President Cohen at the last meeting that the Stotsenburg-Fritz Memorial Resolution had been favorably received by the Highway Commission, with the permission being granted for the erection of a suitable memorial in the proposed Roadside Park on State Road 62, near Leavenworth.

A Committee consisting of Engineer H. H. Jone, Chairman, and Engineers Gray, Ashbaucher and Stoelting, members, has been appointed to handle the collection of funds to finance the memorial.

Chairman Jones reports that the committee is getting very favorable response from individuals and from various organizations. So far, approximately two hundred contributions have been received. The Committee wishes to again emphasize their desire for a great number of small donations, so that as many as care to may participate in the memorial.

CARTER REPORTS ON NATIONAL MEETING

National Director Earl Carter, who represented the Indiana Society at the annual meeting of the National Society of Professional Engineers in New York, October 8th and 9th, gave a detailed report of this meeting at the October meeting of the Indiana Society.

Engr. Carter stressed the value of the National Society in correlating the problems of the various State Societies.

STUDY COMMITTEE REPORTS

One of the high lights of the October meeting was the presentation of the data section of the report of the Committee on Study of the Highway Commission. Portions of the twenty-three page report were read by Engr. K. B. Wolfskill, Chairman of the Committee, and it was very evident that a great deal of time and effort had been expended by the Committee in gathering the factual information contained therein.

The report includes a survey of salaries paid to engineering employees of the highway commissions in the following states:—Iowa, Missouri, Wisconsin, Illinois, Kentucky, Tennessee, West Virginia, Ohio, Pennsylvania, Michigan, California and Connecticut. The last two states were chosen because one is a large state with a long-standing civil service law and the other is a typical small eastern state with a new civil service law and a definite "line of promotion" for engineering employees. Each engineering position in the Indiana Commission is tabulated separately in the report with the salaries shown for the corresponding position in the other states.

There is shown also a comparison of salaries paid by the Highway Commission and by private industry for corresponding engineering positions. This comparison takes the form of a table showing the State salary and the new salary received by engineers who have resigned since July, 1935, to take positions elsewhere.

In order to determine any possible relationship between levels of engineering salaries, as paid by the highway commissions for which the salary survey was made, and the economy, or efficiency of the work done, a study was made of the Federal Highway Programs as carrield out by those states during recent years. The report includes several charts showing the allotments to each state under the various Federal Highway Programs of 1935-1937, the mileage of primary state roads constructed and the number of grade separation structures built.

The November meeting of the Indiana Society of Professional Engineers was held November 18, in the Indiana World War Memorial Building.

Future meetings will be held here on the third Thursday of each month.

COHEN APPOINTS RESOLUTIONS COMMITTEE

Appointment of the Committee on Resolutions for the annual convention has been announced by Pres. Cohen. Members of the committee are Engrs. L. A. Geupel, V. B. McLeay and E. W. Watkins. Engr. Geupel is chairman of the committee.

Any member or groups of members who wish to present resolutions at the convention should communicate with Chairman Guepel in order to insure proper consideration of the resolutions proposed.

WALKER NEW ENFORCEMENT CHAIRMAN

Following the request of Engr. G. R. Harr that he be relieved of his duties as Chairman of the Enforcement Committee, Pres. Cohen announced the appointment of Engr. Don Walker to the Committee Chairmanship. Engr. Harr will continue to serve as a member of this committee but requested the appointment of a new chairman as he was unable, due to pressure of his regular duties, to devote the time and effort to this position that he felt it deserved.

INDIANA

INDIANA SOCIETY OF PROFESSIONAL ENGINEERS

First Convention—
Dec. 10, 1937
Claypool Hotel, Indianapolis, Ind.
8:00 A. M.

Breakfast in Parlor.....Mezzanine Floor
Executive Board and Committees—Everybody Invited

Registration.....Riley Room

BUSINESS SESSION
10:00 A. M.

Opening Address—
S. G. Cohen, President, Presiding

ANNUAL COMMITTEE REPORTS AND DISCUSSIONS

Committee Chairmen: J. T. Hallett, F. Y. Hardy, D. Walker, V. E. Burkle, D. E. Pierce, H. Brunsma, C. R. Yater, C. T. Butler, F. Kellam, K. B. Wolfskill, E. W. Watkins, H. H Jones, E. L. Carter, National Director

Secretary's Report .....J. V. Smythe
Treasurer's Report .....H. O. Garman
Chapter Report—
Frank Schutt, Calumet Chapter

OPEN FORUM

12:00 O'CLOCK NOON
Adjournment
Informal Luncheon

AFTERNOON SESSION
RILEY ROOM

Presiding—M. G. Johnson, 1st Vice-President
2:00 P. M.

ADDRESS OF WELCOME

Honorable Walter C. Boetcher, Mayor of the City of Indianapolis

IDEALS OF THE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS

C. C. Knipmeyer, Professor Electric Engineering, Rose Polytechnic Institute, Terre Haute, Indiana. Member of Indiana State Board of Registration for Professional Engineers and Land Surveyors

THE MAJOR AGENCIES OF THE ENGINEERING PROFESSION AND THEIR FUNCTIONS

Address Prepared by A. A. Potter, President of the American Engineering Council and Dean of the Schools of Engineering, Purdue University, Lafayette, Indiana
Address Read by Homer Rupard, Secretary Indiana Engineering Council

PROBLEMS OF THE CITY ENGINEERS

Clyde R. Yater, City Civil Engineer, Shelbyville, Indiana

THE COUNTY ENGINEERS

John A. Kelley, County Engineer, LaPorte, Indiana, President of the County Engineers Association. Chairman Indiana State Board of Registration for Professional Engineers and Land Surveyors

WORKS PROGRESS ADMINISTRATION OF INDIANA

John Curry, Director of Operations W. P. A. Indiana

PROBLEMS CONFRONTING LOCAL CHAPTERS OF PROFESSIONAL ENGINEERS

Frank Schutt, President Calumet Chapter. Consulting Engineer, Gary, Indiana

Five Minute Intermission

3:30 P. M.
Presiding—K. E. Lancet, 2d Vice-President

INDIANA STATE HIGHWAYS

Earl Crawford, Chairman State Highway Commission of Indiana

NEW HORIZONS FOR THE BUILDING INDUSTRY

Edward D. Pierre, Architect, Indianapolis, Indiana. Past President Indianapolis Construction League

RECENT DEVELOPMENTS IN NATURAL GAS AND OIL IN SOUTHWEST INDIANA

M. M. Fidlar, Assistant State Geologist, Indianapolis, Indiana

BUILDING RURAL ELECTRIC LINES IN INDIANA

James C. Ashby, Chief Engineer, Indiana Statewide Rural Electric Membership Corporation

REPORT OF RESOLUTIONS COMMITTEE

Louis A. Geupel, Chairman
5:00 P. M.
Adjournment

EVENING SESSION
6:30 P. M.

BANQUET—RILEY ROOM

Toastmaster, William M. Holland, Secretary Indiana Highway Constructors, Inc.

THE EFFECT OF DEVELOPING A PROFESSIONAL CONSCIOUSNESS

Perry T. Ford, Vice-President National Society of Professional Engineers. Secretary Ohio State Board of Registration for Professional Engineers and Surveyors, Columbus, Ohio

TRANSPORTATION DEVELOPMENTS

Charles W. Chase, President Indianapolis Railways and People's Motor Coach Company. National President of American Transit Association

MUSIC AND ENTERTAINMENT

INDIANA SOCIETY OF PROFESSIONAL ENGINEERS

OFFICERS

President .....S. J. Cohen
1st Vice-President .....M. G. Johnson
2d Vice-President .....K. E. Lancet
Secretary .....J. V. Smythe
Treasurer .....H. O. Garman
National Director .....E. L. Carter

DIRECTORS

Chesleigh Gray	C. M. Geupel
W. H. Meitz	L. T. Gootee
R. H. Bower	D. H. Walker

COMMITTEE CHAIRMEN

Ethics and Practice .....J. T. Hallett
Legislative .....F. Y. Hardy
Enforcement .....Don Walker
Public Relations .....V. E. Burkle
Membership .....D. E. Pierce
Chapter Activities .....H. Brunsma
Rules .....F. Kellam
City Engineers .....C. R. Yater
County Engineers .....C. T. Butler
State Highway Engineers ..K. B. Wolfskill
Memorial .....H. H. Jones
News Letters .....E. W. Watkins

NEW JERSEY

*EDITOR'S NOTE: We will print news of the New Jersey convention in a later issue.

Eighteenth Annual Convention, New Jersey Association of Professional Engineers and Land Surveyors, Inc., Jersey City, N. J., January 14 and 15, 1938.

UNA VOCE!

By Engineer RAYMOND F. LEUTHY
Secretary Professional Engineers' Club

Much has been said and read about conventions held in the past, many of which we, as members of the organization holding them were privileged to attend.

The third annual convention of the National Society of Professional Engineers held in New York City recently and the coming of our own convention of the State Association in Jersey City, next January, prompts us to review the recent record-breaking show of loyalty of its members to the American Legion.

Hundreds of thousands of legionnaires from the remotest corners of the Nation and its territories, turned the World's largest city into an overcrowded mass of humanity. Their visit was not for the purpose of a holiday or to enjoy a festival of merry making, but to raise one voice in support of their organization in its endorsement or criticism of National policies for their common welfare.

The power behind that great body could have shown no better evidence than by the grand spectacle of thousands marching in a history-making parade that took seventeen hours to pass in review.

Our Association in New Jersey has had many interesting and well attended annual meetings throughout the years of its existence, but can we truthfully state that the attendance at these meetings showed a majority of the engineering profession in this State present? Haven't we all too often heard the plaint of active members of our societies deplore the apparent lack of loyalty of engineers to their colleagues and the organizations who raise their voice in his behalf?

We protest that our profession does not receive the recognition to which its importance and its personnel entitle it; we lament the fact that for the greatest part

our profession is rated among the underpaid, yet we show indifference to the power that lies behind the one voice that can help us.

Our Association has given us the opportunity to win the prominence that is our just due, to make ourselves more companionable to our associates and more valuable to ourselves, by raising 3,000 loyal voices in one, next January in Jersey City, in the greatest engineering meeting we have yet held. Let us resolve to be faithful and offer loyal support to those who would put New Jersey Engineers On Display!

CONVENTION NEWS

Date: January 14th and 15th, 1938.
Convention Center: Elks Club, Journal Square, Jersey City.
Attendance: 3000.
Informal Smoker: Friday evening, January 14th.
Grand Banquet: Saturday evening, January 15th.
Sightseeing Trips: To points of engineering interest.
Sessions: All of Friday and Saturday.
Exhibits: Exhibition of engineering progress.

"NEW JERSEY ON DISPLAY"

NEW YORK

BRONX COUNTY CHAPTER

The Bronx County Chapter of the New York State Society of Professional Engineers held its regular December meeting at the Concourse Plaza Hotel.

President Rudolph Lang reported on his meeting with the presidents of the four other county chapters of New York City. It is proposed to set up a City Conference comprising the five chapters within the city. Each chapter is to be represented by its president and the Conference will be empowered to take action on matters affecting the professional engineers of the city as a whole.

Engr. Walter Federlein presented a very interesting report on group insurance on behalf of the age discrimination committee. A preliminary report on the new Engineers' Code of Ethics now being formulated by the Ethics and Practice Committee was presented by Engr. Treutler. The plans for the proposed essay contest for Bronx High School students were approved and Engr. Joseph B. Diamond was authorized to put them into effect.

Engr. Abraham Slavin informed the members that any amendments to the new building code must be submitted within a couple of weeks. A resolution was passed for Submission to the proper authorities favoring the present program of Federal Aid highway construction and opposing any curtailment of funds for this purpose. The Chapter activities committee under the direction of Engr. Charles Giraud is arranging bowling meets, the first to be held shortly.

SUPERVISORS OF COUNTY CENSORED BY ALFRED ROCHE

Attacks Body for Reducing Requirements for Engineering Post; Would Have Licensed Man Named

From *The Times Record*
Troy, N. Y., Nov. 18, 1937

Rensselaer County's Board of Supervisors was sharply attacked last evening for "its turn about face" in required qualifications for a new superintendent of highways by Alfred E. Roche, of Troy, president of the New York State Society of Professional Engineers.

Speaking before a district meeting of the state organization in The Hendrick Hudson, Mr. Roche charged that the supervisors had set up for the county highway office "specifications that couldn't be weaker and requirements that could hardly be less."

DR. HOTCHKISS SPEAKS

Elmer C. Lawton of Albany, deputy state highway commissioner, presided over the gathering which was attended by 109 professional engineers from several counties, and there were remarks by Dr. William Otis Hotchkiss, president of Rensselaer Polytechnic Institute, Dr. Harlan H. Horner, assistant state commissioner of higher education, and William E. Haugaard, state commissioner of architecture.

Dr. David B. Steinman, former president of the National Society of Professional Engineers and the principal speaker, gave an illustrated talk on "Bridges of Yesterday, Today and Tomorrow."

Among those present was Virgil M. Palmer, chief engineer for the Eastman Kodak Company and holder of the first professional engineering license granted by the state. He has been a member of the licensing board since its inception and has served as its chairman.

OFFICERS REELECTED

The Rensselaer County Chapter held its annual meeting previous to the zone meeting and reelected the following officers: Prof. E. J. Kilcawley, president; Carl W. Robbins, vice-president, and Prof. R. B. Howe, secretary.

Mr. Roche said he was speaking as an engineer, a resident of Rensselaer County and also as president of the state organization, in the latter capacity because the "situation in Rensselaer County has become a matter of concern to engineers, throughout the state."

"On Sept. 23," Mr. Roche declared, "the State Civil Service Commission, acting as agent for the Rensselaer County Board of Supervisors, announced an examination for the position of county superintendent of highways. The requirements were stated. An engineer licensed by the state to practice the profession was sought. The specifications also stated: 'He must be a graduate in engineering with a degree from a recognized college . . .* * *

ANNOUNCEMENT WITHDRAWN

"Four days later this public announcement was withdrawn. The next public notice on the subject was on Nov. 3 (day after Election). On that date the State Civil Service Commission substituted a new set of specifications. The high standards were abandoned. The requirements emanated from the Board of Supervisors. It is therefore self-evident that the highway committee of the county board is not seeking the man best qualified for the work. It is not guaranteeing to the citizens of the county that it will have an engineer, recognized by the laws of the state to practice that profession.

"The new substandard specifications omit all reference to an engineer. They seek a man with these qualifications: 'Six years of satisfactory practical construction experience in a supervisory capacity in the building or maintenance of modern paved highways and bridges.'

"No specification could be weaker—a requirement could hardly be less.

"Every other county within 100 miles has at the head of its highway department a licensed engineer, in other words a professional engineer. Most of the counties of the state have licensed engineers for this position. They have sought licensed engineers because it is the business of the engineer to design, construct, maintain and manage highways and so that the public would have the benefit of that training and experience.

POINTS TO WEAK POLICY IN PAST

"It is unfortunate but true that in the past Rensselaer County has not enjoyed a strong, aggressive highway policy. Now the opportunity for a change is here. The highway problem of this county involves the expenditure of over $300,000 annually. The county superintendent is charged with the upkeep of county and town roads aggregating over 250 miles.

"Men wo practice medicine, law, dentistry, accountancy, engineering, architecture and all other professions must apply to the state for a license to practice. Doctors in county institutions are licensed to practice medicine, the county attorney is licensed to practice law and the county superintendent of highways should and must be licensed to practice engineering."

Here Mr. Roche read a state law which prohibits "the practice of the profession of engineering by an employee of a county or town in the construction, improvement or maintenance of a county road or town highway, or any public work where the expenditure of the completed project exceeds $5,000."

"What is more," Mr. Roche said, "Troy is the home city and Rensselaer is the home county of the oldest engineering institute in the country.

SAYS COUNTY SHOULD SHOW WAY

"Rensselaer Polytechnic Institute has trained thousands of engineers, and a goodly number are residents of this county today. In fact, Rensselaer County—because it is the home of the oldest engineering school in the country—should show the way in all matters requiring engineering skill.

"However, it cannot be demonstrated that the Board of Supervisors is appreciative of Rensselaer Polytechnic Institute when it fails to seek an engineer as the head of its highway department. The Board of Supervisors should be the first to proclaim its adherence to the principle of securing a superintendent of highways qualified in engineering, licensed by the state and a product of its own engineering school, the oldest in the country."

Mr. Roche concluded by saying he was hopeful, however, that the situation would be remedied.

"I am convinced," he said, "that when the responsible leadership of the county learns of this condition it will be corrected. That new leadership has sought the improvement of local government. It has solicited business methods in all county transactions. This is the first opportunity for these men to demonstrate a leadership that will recognize the proper course to be insisted upon in filling this office."

WESTCHESTER COUNTY CHAPTER

On the invitation of the Westchester County Chapter of the New York State Society of Professional Engineers, representatives of the Local 65 Guild of the International Federation of Technical Engineers, Architects and Draftsmen addressed the regular December meeting of the Chapter which was held at City Hall, Yonkers, N. Y.

Vice-President Francis J. Laverty presided and the speakers were Messrs. Charles A. Van Horn and James B. Diamond. The subject was predicated on a question raised by the Chapter as to whether unionism was a means of enforcing proposed wage scales for engineers. Van Horn and Diamond pointed out the progress made by the groups allied with the American Federation of Labor both in private practice and in the civil service and cited specific instances of increases secured by engineers because of the Union's action. A spirited discussion by the fifty or more Chapter members present lasted almost until midnight. The only dissension was from A. Richards who spoke for the American Society of Civil Engineers and stated that he was on a committee which had been considering the wage question for ten years and that they were beginning to reach conclusions. Mr. Richards admitted however that the ASCE had no means of enforcing their wage scale. Engineer Ferren stated that the ASCE had discussed wages for almost forty years with no tangible results and Engineer Benline observed that the wage scales formulated by the combined engineering groups in 1929 had been dormant since that time. Other expressions of opinion by the members indicated a desire for immediate action by the professional engineering groups. The union representatives were thanked for their presentation of the union's activities in enforcing and compelling payment of wage scales.

NEW YORK COUNTY CHAPTER

In November, Edwin A. Kingsley, Consulting Engineer, was Chairman of a meeting which was addressed by Walter D. Binger, Deputy Commissioner of Sanitation, New York City, on the subject of the Ward's Island Sewage Treatment Project. The history of sewage disposal in New York City, harbor pollution, and the many problems attending the daily flow of more than a billion gallons of sewage, were presented in a most interesting and instructive manner. After the talk, many questions were answered.

Fourteen new members were introduced and plans were announced for a second direct mail membership campaign.

A feature of this meeting was the presence of all five presidents of the New York City Chapters—New York, Bronx, Brooklyn, Richmond and Queens. At the dinner preceding the meeting, a plan suggested by President Lang of Bronx Chapter was discussed whereby the presidents of these chapters would form a city conference to consider matters of mutual concern. Such matters are to be referred back to each chapter for individual action. The first conference meeting was held on December 7th and gave promise of providing a highly useful service.

HAROLD R. TOWSE.

NASSAU COUNTY

At the annual meeting of the Nassau County Chapter held at the Lawrence Golf Club, Lawrence, L. I., in December, the following officers were elected for the year 1938:

President.....Frederick W. Malkmus
Vice-President.....Simon E. Hunt
Secretary.....Frederic J. Buse
Treasurer.....Charles H. Weckerle

and the following Directors for 3 year terms:

Harold C. Stevens
John R. P. Goller
Edward N. Nelson

Under new business a resolution was adopted to be sent to the Board of Supervisors, as follows:

Whereas, a new form of government, to become operative on January 1, 1938, has been approved by the people of Nassau County, and

Whereas, the charter for this new form of government provides for the creation of a Department of Civil Service the duties of which shall be the classification of the officers and positions in the classified service of the county; therefore be it

Resolved, that the Nassau County Chapter of the New York State Society of Professional Engineers at a regular meeting held December 2, 1937 desires to call to the attention of the Department of Civil Service the existing state laws governing the practice of engineering, and further be it

Resolved, that engineering titles be allocated only to professional engineering services, and further be it

Resolved, that a license granted by the State of New York be a prerequisite for the practicing of engineering in public service and that only those men holding such license be appointed to engineering positions, and further be it

Resolved, that a copy of this resolution be sent to the Board of Supervisors of Nassau County.

OHIO

The 59th annual meeting of Ohio Society of Professional Engineers will convene at the Neil House, Columbus, Ohio, February 9, 10 and 11, 1938.

Pursuant to the provisions of the Constitution, the duly constituted nominating committee consisting of Carleton S. Finkbeiner, Toledo, Wendell P. Brown, Cleveland, and Fred J. Cellarius, Dayton, has submitted the following nominations:

President, (one to be elected) Edward G. Cantwell, Columbus; Wm. C. Kammerer, Cleveland.

Vice Presidents, (two to be elected) Nelson J. Bell, Dayton; Geo. Warren Emery, Toledo; Houston Coates, Cincinnati; Frank C. Tolles, Cleveland.

Treasurer, (one to be elected) E. A. Lawrence, Columbus; Glenn R. Logue, Columbus.

The Engineer Registration Board will mail shortly more than 9,000 engineer and surveyor renewal cards for 1938, and more than 7,000 registrants will receive this service without necessity of making prescribed applications or remitting renewal fees. This gratuity was made possible by legislation enacted in 1935 sponsored and promoted by the Ohio Society, thereby saving to such registrants approximately $15,000.00 annually. Secretary Perry T. Ford recently advised one of the local groups that free renewals will probably prevail at least eight years longer.

Registrants should show their appreciation by continued membership in Ohio Society.

The fiscal year of Ohio and National Societies ends with December 31, 1937, and members may renew their membership at their early pleasure.

Thanking you for your lively interest in the past, and wishing you continued good health and good fortune, we are

OHIO SOCIETY OF PROFESSIONAL ENGINEERS.

JOHN LAYLIN, *Executive Secretary.*

PENNSYLVANIA

"ALLONS"

PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS
PITTSBURGH CHAPTER

Chapter Publications Committee-Editors
610 Maloney Bldg. 309 Fourth Ave.
Vol. 1 December, 1937 No. 9

EDITORIAL

The Society of Professional Engineers is organized and dedicated to the promotion and protection of Professional Engineering as a social and economic influence vital to the affairs of the Nation. Each, in its field, the technical societies have, and are carrying their own torch, and this organization will not compete. We believe the professional, social and economic interests of the Engineer can best be served by the unified action of all Engineers. The Pennsylvania Society of Professional Engineers is a new and fresh organization, with its face to the future, unhampered by long standing traditions and prejudices. It is conceived and dedicated to the engineering profession as a whole. Its clay is fresh and new, ready for the hand of its members hip to mold to the service of the social and economic affairs of the Commonwealth.

This month we have the honor of introducing to the Pittsburgh Chapter: Engineer Glenn R. Throop, City Building, New Castle, Pa. Engineer James Paul Warner, 1431 Denniston Ave., Pittsburgh, Pa.

The following members of the Pittsburgh Chapter have transferred their Membership to the Erie Chapter: Engineer Karl A. Miller, Meadville, Pa. Engineer Harry B. Joyce, Erie, Pa.

Total Chapter Members 135. Members Transferred 2.

Engineers, here is your chance. This is the annual election. VOTE. Here is a place to dictate something else besides *"Gas From the Curb."* If you don't like the candidates, write a name in. Who ever heard of an Engineer who could not write?

There is an amendment to the Constitution. It increases the dues from $7.50 to $8.50. The entire dollar is for the use of the Pittsburgh Chapter.

To date the Secretary has advanced about $60.00 to pay postage, paper and other necessary expenses. If all outstanding 1936 and 1937 dues are paid before Dec. 31, 1937, there will be a deficit of approximately $10.00. Most of this was caused by sending out announcements of meetings to prospective members.

The Chapter has increased its membership by 55 members this year, published a bulletin *ALLONS* for 9 months, had guest speakers at nearly every meeting and has brought the Engineering Profession to public notice on numerous occasions which cannot fail but be beneficial to all. You are asked for $1.00 additional to carry forward our program. This is not all; we need some of your personal time and thought. This Chapter can only serve by being served by its membership.

Have you brought in your quota of new members? Let's put the Chapter Membership to 150 by Jan. 1, 1938. That means 15 new members. Take these coats off and roll up your sleeves and let's bring in some new members.

ALLONS extends a Merry Christmas and a Happy New Year to all.

SECOND ANNUAL MEETING
PITTSBURGH CHAPTER PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS ASSEMBLY ROOM FORT PITT HOTEL PITTSBURGH, PA.

Dec. 16, 1937
PROGRAM

SERVICE—COOPERATION

6:30 P. M. Dinner—Assembly Room.

8:00 P. M. Presentation of Toastmaster by Engr. Alex. Hutchinson, President Pittsburgh Chapter, P. S. P. E.
Toastmaster, Engr. E. A. Holbrook, Dean of the School of Engineering and Mines, University of Pittsburgh.
Mr. Raymond M. Marlier, President Pittsburgh Chapter American Institute of Architects.
Mr. James M. Cumming, Past President Pennsylvania Institute of Certified Public Accountants.
Dr. W. Earle Craig, Odontological Society of Western Pennsylvania.
Allegheny County Medical Society.
Allegheny County Bar Association.

9:00 P. M. Pittsburgh Chapter P. S. P. E. Business Meeting and Election of Officers.
ACKNOWLEDGMENTS:—Entertainment Committee—Engineers Nathan Leebov, Robert L. Horne, David Camilli, E. L. Arnold, Louis P. Bilotta, Ragner Berg, S. H. Burns, Chas. C. Carlin, James Devlin, John E. Frazier, Chas. F. Houlihan, George M. Levinson, Ray S. Quick, J. J. Paine, J. B. Sweeney, John D. Stevenson.

9:30 P. M. Adjournment.

The following is a list of the officers and directors of the Pittsburgh Chapter, Pennsylvania Society of Professional Engineers for 1938.

Title	*Name*	*Term Expires*
President:		
	Roswell Canfield 5530 Center Avenue Pittsburgh, Pennsylvania	1938
Vice-President:		
	E. E. Appel 508 Gulf Building Pittsburgh, Pennsylvania	1938
Secretary:		
	Benjamin H. Aires 610 Maloney Bldg. Pittsburgh, Pennsylvania	
Treasurer:		
	Miles G. Bigley 3247 Eastmont Avenue South Hills, Pennsylvania	
State Director		
	Charles A. Finley 1807 Law and Finance Bldg. Pittsburgh, Pennsylvania	
Directors:		
	John M. Duff 2227 Jane Street S. S. Pittsburgh, Pennsylvania	1938
	Clarke K. Harvey 533 County Office Bldg. Pittsburgh, Pennsylvania	1938
	Samuel Eckels 35 Hazel Drive Pittsburgh, Pennsylvania	1938
	George S. Richardson 7118 Meade Street Pittsburgh, Pennsylvania	1939
	Edw. J. Ducey 1422 Frick Building Pittsburgh, Pennsylvania	1939
	Alexander Hutchinson, (Past Pres.) 608 South Avenue Wilkinsburg, Pennsylvania	1939
	Earl S. Fenelon H. J. Heinz Company Pittsburgh, Pennsylvania	1940
	Edward H. Stumpf 1004 Royal York Apt. Pittsburgh, Pennsylvania	1940

BRONX COUNTY CHAPTER
N. Y. STATE SOCIETY OF PROFESSIONAL ENGINEERS
ESSAY CONTEST
FOR BRONX HIGH SCHOOL STUDENTS
on the subject
WHAT CIVIC IMPROVEMENT WOULD YOU PROPOSE AS THE MOST BENEFICIAL FOR THE BOROUGH OF THE BRONX?

ELIGIBILITY. Students residing in the Bronx and attending any high school are eligible.
Students attending any high school in the Bronx are eligible.

SUBJECT MATTER. By civic improvement is meant a physical improvement of an engineering nature designed to promote the safety, health, or convenience of the residents of the Bronx, or to contribute to the beauty or accessibility of the Borough, or to increase the desirability of the Borough as a residential community or commercial or industrial center. Some examples of such improvements already existing are:
Bridges and tunnels lying wholly within the Borough or connecting the Bronx with other communities.
Railroad and highway facilities.
Sewers and sewage disposal plants.
Examples of proposed improvements are:
Development of Bronx waterfront as a seaport.
Construction of a municipal airport in the Bronx.
Development of area along lower Bronx River for park and parkway.
Construction of bridge now being built between the Bronx and Whitestone.
Construction of express highway over railroad on Park Avenue in Bronx & Manhattan.
Proposed civic improvements which are not in the nature of physical additions to the facilities of the Borough do not come within the scope of the contest. For example, such possible improvements as a reorganization of our county offices, our educational or public health systems, or proposals for new methods of electing public officials will not be considered by the judges.

FORM. Essays shall not be more than 1,000 words in length. They shall be hand-written legibly or typewritten on one side of white paper, 8½ inches by 11 inches in size.

PRIZES. First, second, and third prizes of $25, $15, and $10, respectively. A certificate shall be issued to each of the contestants submitting one of the best ten essays.

TIME LIMIT. All entries must be submitted before midnight of January 31, 1938. Entries submitted by mail must be postmarked not later than that time.

ALL ESSAYS MUST BE SUBMITTED TO
JOSEPH B. DIAMOND
Chairman of Essay Contest Committee
152 West 42nd Street
New York City

KEYSTONE CHRONICON

ERIE CHAPTER NUMBER

A copy of this is sent to each registered professional engineer in Erie, Crawford and Warren Counties to call their attention to the chartering on September *22*, 1937 of the ERIE CHAPTER P. S. P. E.

An active chapter in your midst enhances the value of your membership and should induce you to join should you have been putting off this duty to yourself and your profession.

Use the enclosed card and communicate with

Hugh M. Nelson,
921 West 7th St., Erie, Pa.

The Resolution presented by the Harrisburg Chapter at the Hershey Convention providing for admission to the Society of bona-fide registered engineers in Pennsylvania, regardless of their place of registration, was carefully considered by the Executive Board at their Sept-16th meeting. The field had been surveyed and it was felt that there were not sufficient cases involved to warrant a change. The Board noted also that a spokesman for the State Registration Board had stated that they were opposed to the change on the ground that other States' requirements were not in some cases equivalent to ours and that any engineer who wished to practice for any considerable time in Pennsylvania was bound to register therein. They considered also that the fact that our *entire* membership were registered in Pennsylvania was an important talking point with legislators who were liable to resent suggestions from persons outside of the commonwealth. The judgement of the Board was that our requirements in this respect should not be changed and that it was not warranted in submitting the question to a letter ballot.

The writer noted the following interested workers and participants from Pennsylvania at the Annual Convention of the National Society of Professional Engineers at the Hotel Commodore in New York City on October-8th and 9th. State President F. H. Dechant and Mrs. Dechant, Vice President Wm. S. Lohr, Executive Secretary T. W. Battin, Financial Secretary, W. S. Witte and Mrs. Witte, Treasurer A. A. Townsend and Mrs. Townsend, Editor Robert Hall Craig of the AMERICAN ENGINEER, Secretary H. F. Bamberger, Engineers E. A. Smith, Treas. Milton H. Blez, J. S. Sholl, David C. Finston, J. S. Stastny, of the Philadelphia Chapter; Engr. Jas. A. Powell of the Reading Chapter; Engr. J. Earl Frazier of the Pittsburgh Chapter; Engineer Ramage and Secretary Anckaitis of the Lehigh Valley Chapter; Engineers Edgar A. Weimer, J. M. Moltz, Sec'y A. Bowman Snavely, Irvin H. Geiger, W. S. Hammaker and A. G. Leake of the Harrisburg Chapter and Engineer Chas. Henry Moon, non-member, and others.

The Institute of Ceramic Engineers appears to be the first technical society to stipulate that its members be registered professional engineers.

Chapters might well make a practice of having their senators and representatives visit them at least one meeting each year. The legislators are invariably glad to have an opportunity to present their views to their constituents and it is of vital importance that they should know and be kept conscious of our existence and determination to be heard in public affairs.

The State Society appreciates the honor paid to us by the election of our President Dechants as Vice President of the National Society of Professional Engineers. Pittsburgh was selected as the place for the 1938 convention.

Engineer Arthur G. Leake of Middletown, Va., a member of our Harrisburg Chapter is to be congratulated upon one of the most attractive engineers' letter heads yet produced, a feature of which is the National Society emblem with the word "member" superimposed in small letters. A similar smaller cut is used on his card. This sort of publicity for the society is dignified and desirable.

Engineer Charles Elcock of the Lehigh Valley Chapter is congratulated upon his promotion from Captain to Major of Engineers.

NEW MEMBERS

(The two letters following the serial number indicate the Chapter, thus:—Philadelphia...PL, Pittsburgh...PB, Wilkes-Barre ...WB, Harrisburg...HB, Lehigh Valley ...LV, Reading...RD, Erie...ER.

500 LV Maurice A. Long
501 ER Nevin R. Dickson
502 ER Geo. E. Eichenlaub
503 ER M. C. Goodspeed
504 ER Albert K. Hubbard
505 ER Winne Lyon Lewis
506 ER Hugh M. Nelson
507 ER Clairence K. Pulling
508 ER John Frederic Wadsworth
509 PL Howard D. Ruster
510 WB Harold G. Jackson
511 PB Roy Preston Tooke
512 ER James Russell Hill
513 ER Theodore Case Hill

We have already received seven consecutive copies of the Pittsburgh Chapter News Sheets the *ALLONS*, a splendid little live wire paper upon which the Chapter is to be felicitated.

The last Board meeting considered the reference of the organization of new chapters to the nearest adjacent existing chapter and this will be done. In the meantime we are endeavoring to have regional representatives appointed for jurisdiction not yet chartered. These representatives will be interested in all registered engineers in their respective territories and will give the state organization the benefit of their local contact. This would mean active persons to represent Coatesville, Norristown, Scranton, Johnstown, Greenburg, and certain groupings of the various states of the union which have over 500 registered engineers from Pennsylvania. It is hoped the several chapters will nominate or suggest such representatives, and at an early date. The scheme has worked very well in some other states.

PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS

Memorandum for Members

The following extracts from a Monograph on *The Professional Engineer* prepared by Esther Lucile Brown and published by the Russell Sage Foundation are being sent to our membership as a matter of general interest. Bound copies of the book can be secured at a slight fee from the Russell Sage Foundation New York City.

* * * * * * * * *

PREFACE

This monograph is one of a proposed series dealing with the present status of certain established or emerging professions in the United States. The studies were originally planned for publication as chapters of a single volume comparing conditions in the professions. This plan was abandoned, however, since it seemed probable that they would serve a wider purpose if issued separately. Social Work as a Profession, the first of the series to be published, appeared in May, 1935; a revised edition in May, 1936.

Although there is a large body of literature on the professions, it is often so scattered and sometimes so difficult to obtain that much of it is not used by professional people themselves and even less of it is known to the laity. In these monographs, therefore, significant data obtained from interviews, views, questionnaires, books, periodicals, and unpublished studies have been assembled and interpreted in such fashion, it is hoped, that the information may be readily utilized by vocational counselors and those who are striving to make the professions contribute more widely to the welfare both of their members and of society.

Because it is possible, within the compass of a small volume to present only a fraction of the material relating to the given subject, those facts have been chosen that seem to explain the reasons why a particular group has reached its present degree of effectiveness. No one would dispute the assumption, for example, that today adequate preparation constitutes one of the most important elements of successful practice. So vital is formal training that a large proportion of each monograph has been devoted to a discussion of its evolution and the problems incident to it. Similarly, since professional associations are capable of doing much to raise standards of practice and of determining what the relation of a group to the society it serves shall be, the most important of the national associations are described at some length.

It is generally recognized that one of the most serious problems of the professions is the lack of an accurate determination of the number of persons who are needed in a specific group, and the lack of a form of control that would regulate the numbers to be admitted in the interests of the public and of the group. A corollary to this problem is the uneven distribution of professional service in the various sections of the United States, and the widespread lack of agencies for counseling new members of these professions about selecting localities in which to settle.

There is also the equally important problem of the inability of large numbers of persons receiving low incomes, especially in rural areas, to purchase as much professional service as they need. Even when service is paid for by the government or private philanthrophy rather than by the individual, its quantity and quality vary in a marked fashion from one locality to another. In the face of these difficulties, there have been set down such data as could be obtained on the number of persons engaged in a particular profession, their distribution and earnings, and the demand for their service as compared with the need for it. Experiments in new ways of providing service have been noted, in so far as these experiments may result in more satisfactory working conditions for the members of the groups described and in extended service for the public.

Each study ends with a survey of recent trends within the profession under consideration. These trends indicate the ability of the group to adjust itself to the ever changing conditions in our social life.

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THE PROFESSIONAL ENGINEER

ENGINEERING is primarily the art of applying the resources of materials and power in nature to the use and convenience of man. Engineers translate the discoveries

of scientists into structures, machines, and processes. Aside from this aspect of their work, which is generally recognized, there is another that must not be overlooked; their function is becoming increasingly more extensive than the application of science to physical creation. They are being called, to a constantly greater extent, to occupy positions of a managerial nature, not only in their particular field of engineering, but in industry, business, public health, banking, and the administration of public affairs.

There are five principal divisions of the profession, although actually there is no clear-cut method whereby they can be separated into distinct categories. They are:

CIVIL ENGINEERING, which includes the design and erection of structures of steel, masonry, and wood; the building of railways, highways, and inland waterways; the supplying of water and the disposal of sewage; the construction of harbors, docks, airports, subways, dams, and a multitude of other works.

MECHANICAL ENGINEERING, which deals with the production of power from fuel and water, with the design and manufacture of machines, and with the direction and operation of the power and manufacturing industries.

ELECTRICAL ENGINEERING, which is concerned with the application of electricity to power, light, communications and transportation, and the manufacture of appliances used for these purposes.

CHEMICAL ENGINEERING, which relates to the design, construction, and operation of works for the production of chemicals, foodstuffs, materials of construction, and other products in which chemical processes are a factor.

MINING AND METALLURGICAL ENGINEERING, which consists of the extraction of ores and fuels from the earth and with their refinement and adaptation to commercial use.

Each of the five branches may be further divided into numerous specialties. Thus the technical subdivisions of civil engineering, for example, include structural, sanitary, highway, railway, municipal, and hydraulic engineering, and surveying. The work of engineers is likewise diverse. They may be employed as designers, constructors, or research workers, and hence be concerned chiefly with the technical.

THE TRAVIS CHAPTER

Austin, Texas

The Travis Chapter of the Texas Society of Professional Engineers tendered a most successful dinner in December to Engineer Julian Montgomery who has recently been appointed State Highway Engineer.

One hundred and four engineers, including fourteen guests of the Chapter, attended the affair which was purely a social gathering to do honor to a fellow engineer who has attained distinction in his chosen field of engineering.

Engineer Montgomery, who was introduced by Dean Emeritus T. U. Taylor of the University of Texas, made a splendid talk upon the needs of the Engineers and the wider aims of the engineering profession. His plea for greater social consciousness among engineers and for greater administrative vision was an admirable expression of the aims of the National Society of Professional Engineers.

Engineer John D. Miller acted as toastmaster for the occasion. Music by Engineer Herman Bohn and a skit depicting a meeting of the Examining Board for Engineer's Licenses completed the program.

TANGIBLE RESULTS

The University of the State of N. Y.
The State Education Dept.
November 8, 1937.

Dr. D. B. Steinman
117 Liberty Street
New York, N. Y.

Dear Dr. Steinman:

After several discussions, Mr. ——— has written to me explaining that in using the title "engineer" and the term "engineering" he did not realize that it was a violation of the laws of the State of New York. He has now discontinued the use of these designations, and will, under no circumstances, again violate the provisions of Article 55 of the Education Law. He has submitted to me revised prospectus in which all the objections have been eliminated.

This matter is now closed.

Yours very truly,
(Signed) James O. Hoyle,
Investigator for the Professions.

U. S. WORKS PROGRESS ADMINISTRATION
For the City of New York
70 Columbus Ave.
New York, N. Y.
November 3, 1937.

Dr. D. B. Steinman
117 Liberty Street
New York, N. Y.

Dear Doctor Steinman:

I have your letter of October 29th with reference to the work of the committee which you so graciously consented to direct. I am happy to know that the review and discussion of the examinations conducted by this organization for our engineers and architects disclosed the fact that they were in the main well suited for the purpose intended.

We shall follow your suggestion in regard to getting more time for the examinations, so that there can be no possible criticism of them.

Yours very sincerely,
(Signed) Brehon Somervell,
Administrator.

HOW MUCH HEAT?

All consumers of bituminous coal who wish to remove the element of chance from their coal purchases thus securing greater burning efficiency and more value for each dollar spent for fuel will be interested in "How Much Heat" recently published and released by the Consumers' Counsel of the National Bituminous Coal Commission. This booklet is the first of a series of documents prepared by this agency established by Congress to represent the consuming public in activities under the Bituminous Coal Act of 1937.

Experience, and evidence presented at recent hearings conducted by the Coal Commission on classification of coals indicates that there is a deplorable lack of uniformity in describing bituminous coal in such a manner that purchasers can have advance knowledge of probable burning characteristics. "How Much Heat" pictures coal buyers as being in the dark at the present time, and suggests that for the protection of producers as well as consumers, uniform and standard descriptions be used in the evaluation of coals. Specific recommendations are made for classification by rank and grade, and a suggested means for making the information available for prospective purchasers is presented. Governmental facilities for checking specifications of producers so that consumers may be fully informed are considered.

Verbatim testimony of witnesses at recent hearings held by the Coal Commission is quoted, and it is interesting to note that witnesses stated that under present procedure considerable misleading information on the analysis of coal is circulated. Remedies suggested include the taking of samples for analysis and adoption of uniform terminology by sellers in representations of quality and burning characteristics.

"How Much Heat" presents a plea for a standard language in describing coal, facilitates the use of specifications, and should be of prime interest to commercial and industrial buyers, retail dealers, etc., and more important, to the home owner and individual consumers and consumer groups who wish to exercise their right of knowing the actual value of coal purchases.

As long as the supply lasts, single copies may be obtained free by writing to the Consumers' Counsel, National Bituminous Coal Commission, Box 483, Washington, D. C. Extra copies may be purchased for ten cents each from the Superintendent of Documents in Washington.

(Note: This material was submitted by The National Bituminous Coal Commission, Washington, D. C. Comments and constructive criticism from Engineers would be appreciated.)

THIS IS THE WAY ONE STATE SOCIETY THANKS THE "BILL PAYER"

PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS
NINE TWENTY ONE WIDENER BUILDING—PHILADELPHIA

We Thank You . . .

for your remittance which has been received and for which we enclose your new membership card . . . Your support and cooperation is greatly appreciated and has made possible any success or accomplishments your society has made . . . Please do not hesitate to write us when you feel we may be of service to you. We sincerely believe that by your loyal cooperation in all activities of this Society you will continue to receive many worth-while dividends throughout the busy year ahead.

Cordially,

T. W. BATTIN
Executive Secretary

PROFESSIONAL DIRECTORY

F. HERBERT SNOW
Consulting Engineer
Telegraph Bldg. Harrisburg, Penna.

Robert Hall Craig
Consulting Engineer
Public Utility • Industrial • Municipal
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